HOLT MATHEMATICS SYSTEM

BOOK 3

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HOLT MATHEMATICS SYSTEM
BOOK 3

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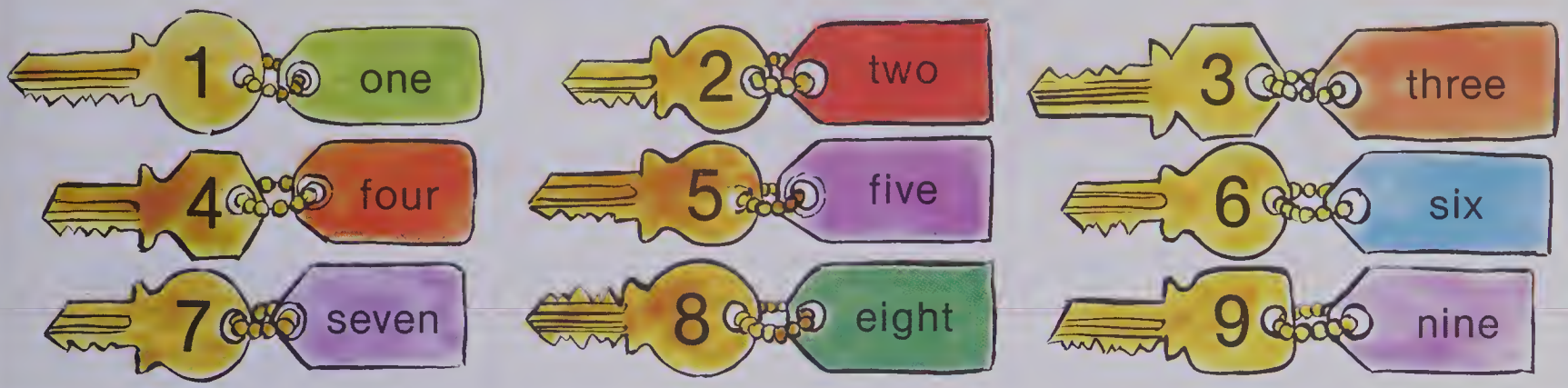
Chapter 1

Whole Numbers

Place Value to 2 Digits

Addition and Subtraction: Basic Facts

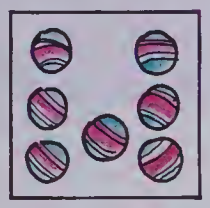
Numbers



Write the numerals.

1.	five 5	2.	nine	3.	two
4.	three	5.	one	6.	six
7.	seven	8.	four	9.	eight

How many?

10. 
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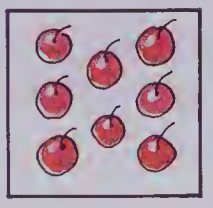
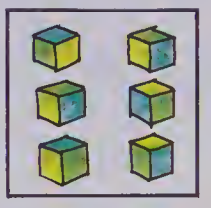
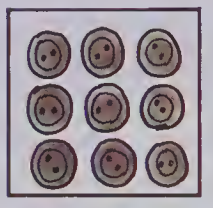
12. 

13. 

14. 

What is missing?

15.	4, 5, 6	16.	3, ■, 5	17.	1, ■, 3	18.	6, ■, 8
19.	7, ■, 9	20.	2, ■, 4	21.	6, ■, ■	22.	1, ■, ■
23.	2, ■, ■	24.	5, ■, ■	25.	7, ■, ■	26.	3, ■, ■
27.	■, ■, 4	28.	■, ■, 6	29.	■, ■, 9	30.	■, ■, 3

Tens and Ones

Count some cubes.
When you have 10, put them in a long row like this.

1 ten ⟶ 10

Count some more cubes.

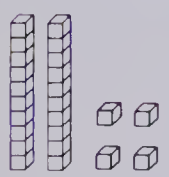
1 ten and **1** one ⟶ **11**

1 ten and **2** ones ⟶ **12**

tens ones
1 2

The **1** in 12 means **1 ten.**
The **2** in 12 means **2 ones.**

Find how many.

1. 

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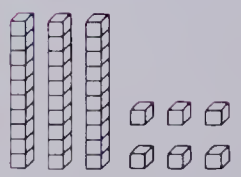
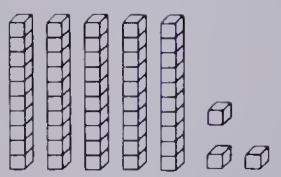
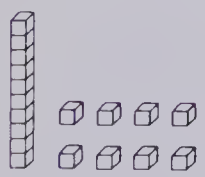
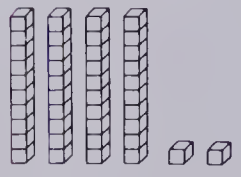
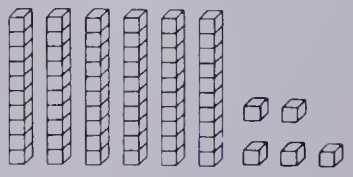
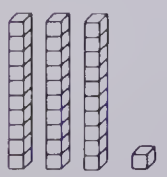
2. 

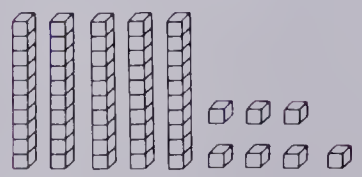
3. 

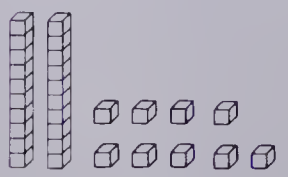
4. 

5. 

6. 

7. 

8. 

9. 

How many tens and ones? Copy and complete.

1. 14 = 1 ten and 4 ones

2. 26 = ■ tens and ■ ones

3. 43 = ■ tens and ■ ones

4. 35 = ■ tens and ■ ones

5. 18 = ■ ten and ■ ones

6. 51 = ■ tens and ■ one

7. 84 = ■ tens and ■ ones

8. 22 = ■ tens and ■ ones

9. 40 = ■ tens and ■ ones

10. 97 = ■ tens and ■ ones

Write the numerals.

11. 3 tens and 7 ones 37

12. 1 ten and 9 ones

13. 8 tens and 6 ones

14. 2 tens and 5 ones

15. 6 tens and 0 ones

16. 4 tens and 2 ones

17. 5 tens and 4 ones

18. 7 tens and 1 one

19. 9 tens and 3 ones

20. 1 ten and 5 ones

21. 3 tens and 6 ones

22. 8 tens and 0 ones

Tell what the **2** means.

23. 27

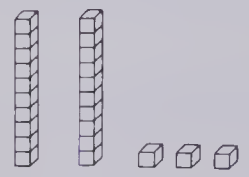
24. 42

25. 32

26. 22

A Tens and Ones Chart

Build 2 tens and 3 ones using cubes.
How many cubes did you use?



2 tens and **3** ones

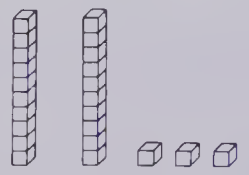
We can put this in a **tens and ones** chart.

How many tens? →

How many ones? →

tens	ones
2	3

You can make this number 3 ways.

23 = 

23 = 2 tens and 3 ones.

23 =

tens	ones
2	3

Make a **tens and ones chart** and write the numerals like this:

1. 3 tens and 5 ones

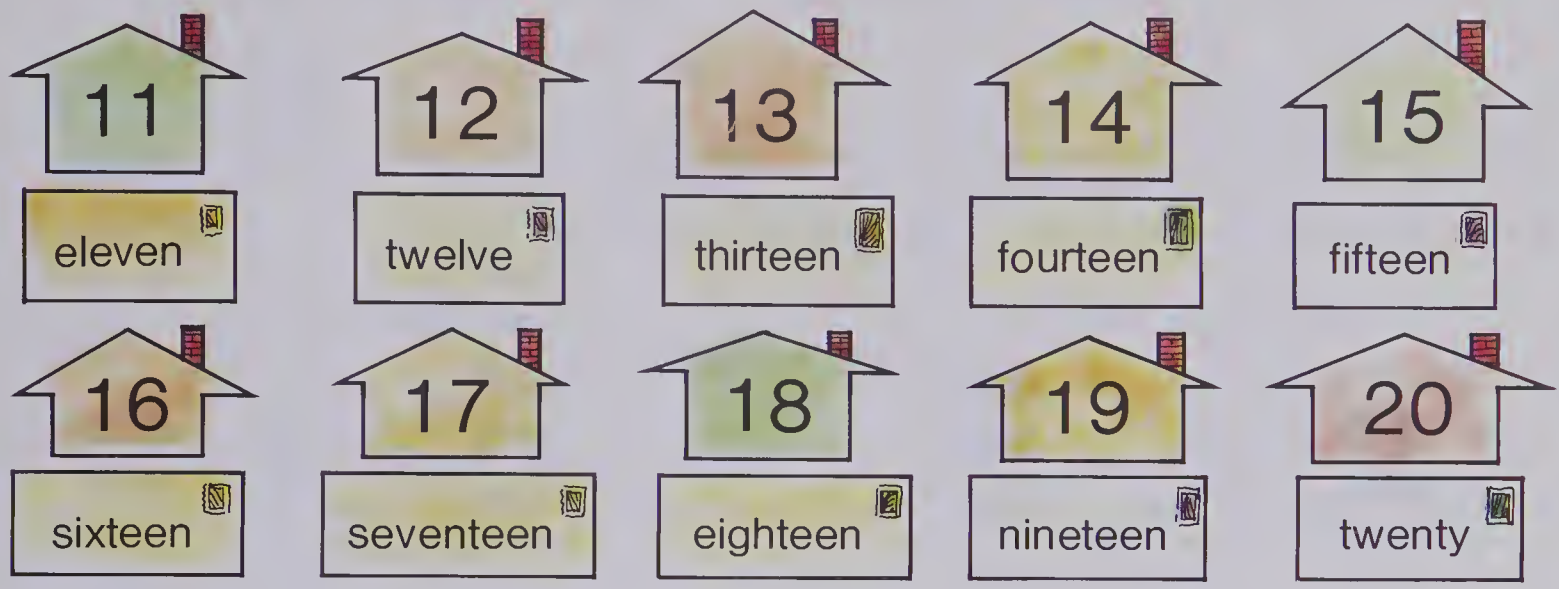
tens	ones
3	5

3. 5 tens and 2 ones
5. 4 tens and 5 ones
7. 8 tens and 6 ones
9. 2 tens and 3 ones
11. 7 tens and 4 ones

2. 2 tens and 6 ones
4. 1 ten and 4 ones
6. 6 tens and 2 ones
8. 5 tens and 1 one
10. 3 tens and 7ones
12. 1 ten and 8 ones

tens	ones

Reading Numbers



Can you unscramble these?

ninety 70 twenty eighty 90 30 50 thirty 20 fifty 60 80 40 sixty seventy forty

Copy and match. 20 — twenty

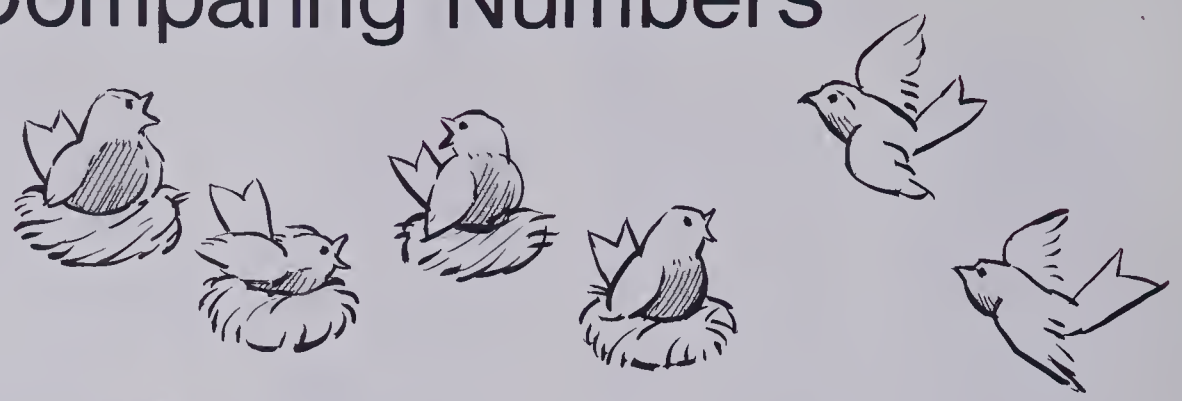
Write the numerals.

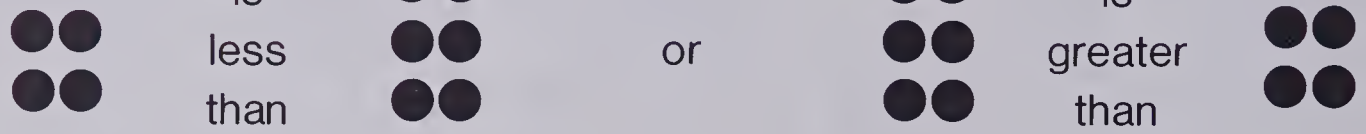
1. fourteen 14	2. eighteen	3. twelve	4. sixteen
5. nineteen	6. eleven	7. thirteen	8. fifteen
9. seventeen	10. sixty-four	11. twenty-five	12. forty-two
13. thirty-one	14. ninety-six	15. seventy-nine	16. eighty-three

Comparing Numbers

How many birds?

How many nests?





4 is less than 6 or 6 is greater than 4

4 < 6

6 > 4

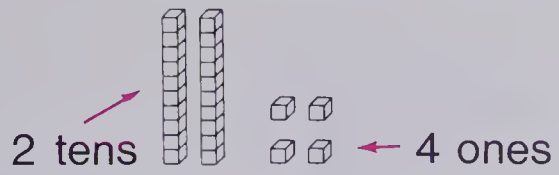
Copy and put < or > or = in the ●.

1. 6 ● 8	**2.** 5 ● 5	**3.** 2 ● 4
4. 9 ● 7	**5.** 3 ● 5	**6.** 6 ● 4
7. 1 ● 7	**8.** 9 ● 8	**9.** 3 ● 3
10. 6 ● 5	**11.** 2 ● 1	**12.** 7 ● 8

Copy and complete.

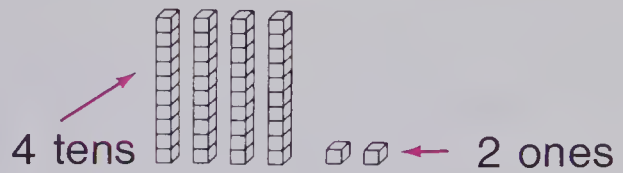
13. 4 < ■	**14.** 7 < ■	**15.** 2 < ■
16. 6 < ■	**17.** 3 = ■	**18.** 8 < ■
19. 7 = ■	**20.** 3 > ■	**21.** 9 > ■
22. 2 > ■	**23.** 6 > ■	**24.** 5 = ■

Comparing Larger Numbers



24

24 has 2 tens.



42

42 has 4 tens.

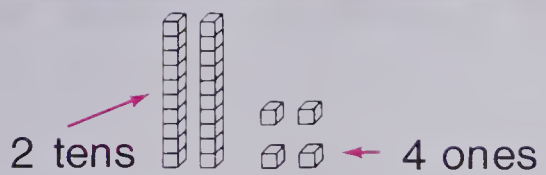
42 has more tens.

42 is greater than 24.

$42 > 24$

24 is less than 42.

$24 < 42$



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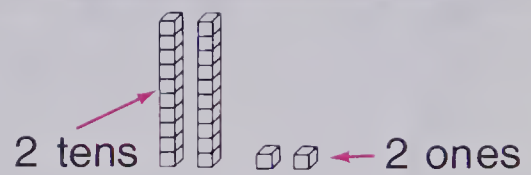


22

24 and 22 both have 2 tens.

24 has 4 ones.
22 has 2 ones.

} 24 has more ones.

24 is greater than 22.

$24 > 22$

22 is less than 24.

$22 < 24$

Which number has more tens?

1. 23 or 47
2. 35 or 68
3. 82 or 28
4. 44 or 34

Which number has more ones?

5. 46 or 45
6. 14 or 17
7. 37 or 34
8. 28 or 21

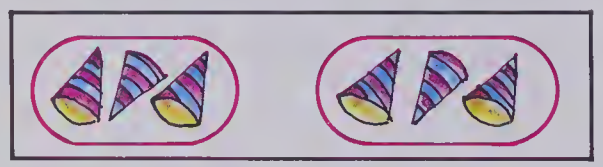
Which number is greater?

9. 34 or 32
10. 23 or 32
11. 45 or 43
12. 78 or 87
13. 18 or 41
14. 77 or 63
15. 29 or 19
16. 61 or 68

Number Stories

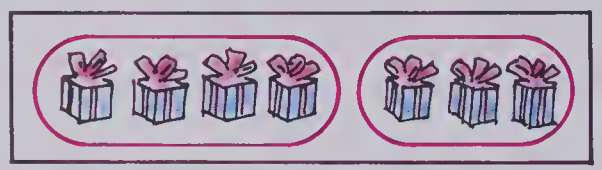
4 + 2 = 6

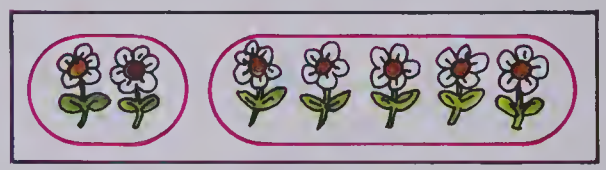
Write the number stories for the pictures.

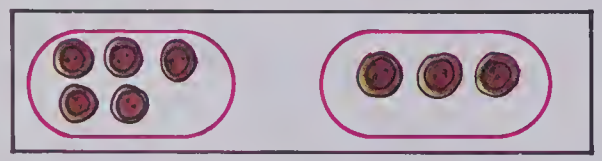
1. 

3 + 3 = 6

2.

3. 

4. 

5. 

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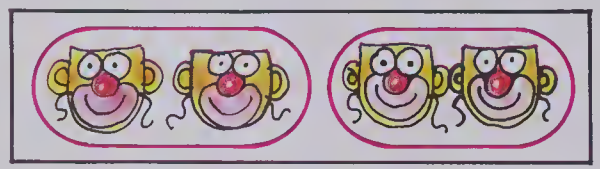
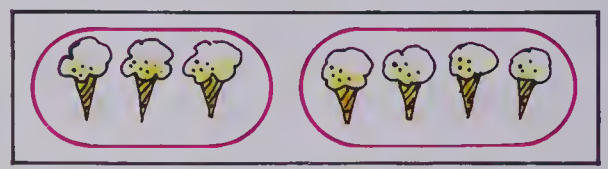
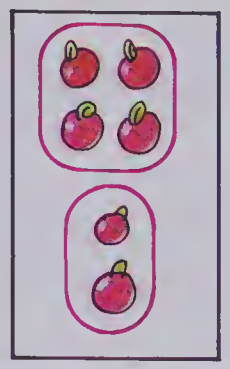
7. 

8. 

Copy and complete.

9. 5 + 3 = ■
10. 3 + 2 = ■
11. 3 + 6 = ■
12. 7 + 2 = ■
13. 4 + 3 = ■
14. 8 + 1 = ■
15. 1 + 4 = ■
16. 2 + 6 = ■
17. 5 + 4 = ■

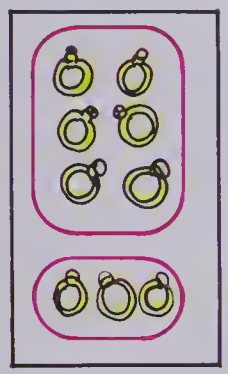
Up and Down Number Stories



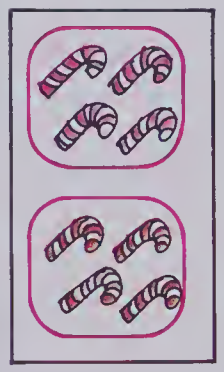
$$\begin{array}{r} 4 \\ +2 \\ \hline 6 \end{array}$$

You can write number stories up and down.

Write the number stories for these.

1. 

$$\begin{array}{r} \blacksquare \\ +\ \blacksquare \\ \hline \blacksquare \end{array}$$

2. 

3.

Complete these.

4. $\begin{array}{r} 4 \\ +4 \\ \hline \blacksquare \end{array}$

5. $\begin{array}{r} 4 \\ +2 \\ \hline \blacksquare \end{array}$

6. $\begin{array}{r} 4 \\ +5 \\ \hline \blacksquare \end{array}$

7. $\begin{array}{r} 6 \\ +3 \\ \hline \blacksquare \end{array}$

8. $\begin{array}{r} 1 \\ +4 \\ \hline \blacksquare \end{array}$

9. $\begin{array}{r} 2 \\ +5 \\ \hline \blacksquare \end{array}$

10. $\begin{array}{r} 7 \\ +2 \\ \hline \blacksquare \end{array}$

11. $\begin{array}{r} 8 \\ +1 \\ \hline \blacksquare \end{array}$

12. $\begin{array}{r} 6 \\ +2 \\ \hline \blacksquare \end{array}$

13. $\begin{array}{r} 4 \\ +3 \\ \hline \blacksquare \end{array}$

14. $\begin{array}{r} 2 \\ +3 \\ \hline \blacksquare \end{array}$

15. $\begin{array}{r} 5 \\ +4 \\ \hline \blacksquare \end{array}$

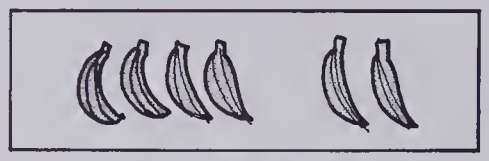
16. $\begin{array}{r} 3 \\ +6 \\ \hline \blacksquare \end{array}$

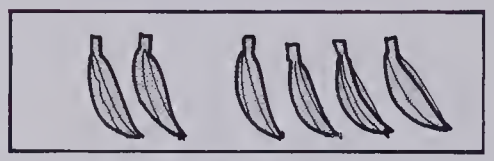
17. $\begin{array}{r} 1 \\ +7 \\ \hline \blacksquare \end{array}$

18. $\begin{array}{r} 3 \\ +3 \\ \hline \blacksquare \end{array}$

Flip-Flop Stories

These are "Flip-Flop" stories. Why?



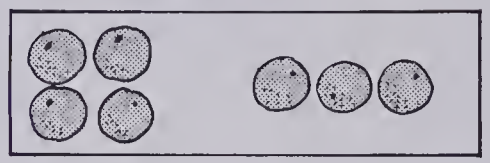


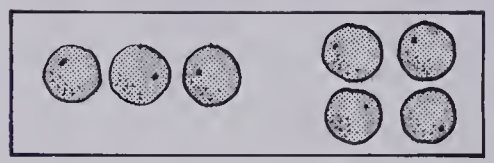
$4 + 2 = 6$
$2 + 4 = 6$

$4 + 2 \quad = \quad 2 + 4$

Write "Flip-Flop" stories for these.

1.

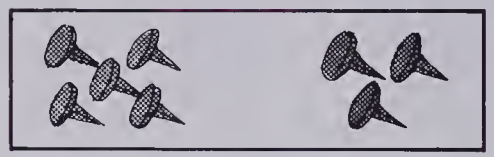




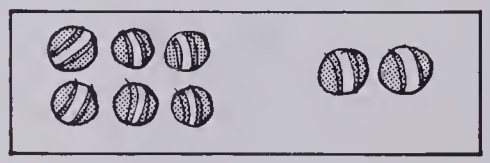
$4 + 3 = 7$
$3 + 4 = 7$

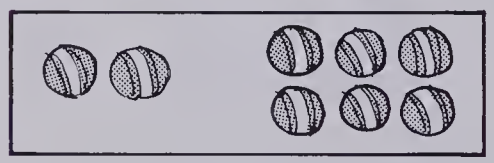
$4 + 3 \quad = \quad 3 + 4$

2.



3.





Are these "Flip-Flop" stories? (Yes or no)

4. $3 + 2 = 2 + 3$

5. $4 + 2 = 3 + 4$

6. $5 + 3 = 4 + 5$

7. $3 + 4 = 4 + 3$

Make the "Flip-Flop" stories for these.

8. $4 + 3 = \blacksquare$

9. $3 + 6 = \blacksquare$

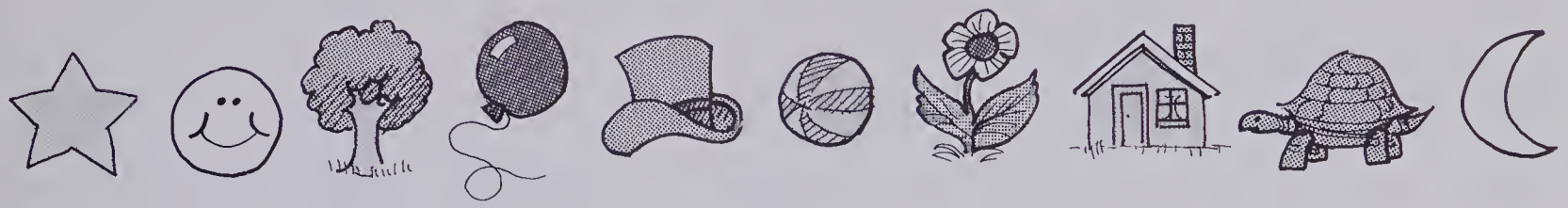
10. $2 + 5 = \blacksquare$

11. $3 + 1 = \blacksquare$

12. $4 + 2 = \blacksquare$

13. $4 + 5 = \blacksquare$

Things in Order



1	2	3	4	5	6	7	8	9	10
1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th

Copy and write the **short way.**

1. fourth — 4th
2. tenth
3. seventh
4. first
5. ninth
6. fifth
7. second
8. sixth
9. third
10. eighth

Where are they? Copy and complete.

11. The is 3rd.
12. The is ■.
13. The is ■.
14. The is ■.
15. The is ■.
16. The is ■.
17. The is ■.
18. The is ■.
19. The is ■.

How many letters? Where are they?

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z

20. The **m** is 13th.
21. The **k** is ■.
22. The **r** is ■.
23. The **z** is ■.

Addition Chart

This is an addition chart.
It can help you to do your number stories.

+	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9	10
2	2	3	4	5	6	7	8	9	10	11
3	3	4	5	6	7	8	9	10	11	12
4	4	5	6	7	8	9	10	11	12	13
5	5	6	7	8	9	10	11	12	13	14
6	6	7	8	9	10	11	12	13	14	15
7	7	8	9	10	11	12	13	14	15	16
8	8	9	10	11	12	13	14	15	16	17
9	9	10	11	12	13	14	15	16	17	18

1. Find one number in the red row.
2. Find the other number in the blue column.
3. Go down from the number in the red row.
4. Go across from the number in blue.
5. The answer is in the box where the two number paths meet.

5 + 4 = 9

Use your addition chart to help you do these.

1.	(a) $3 + 4 = \blacksquare$	(b) $5 + 2 = \blacksquare$	(c) $2 + 3 = \blacksquare$	(d) $4 + 4 = \blacksquare$
2.	(a) $6 + 2 = \blacksquare$	(b) $2 + 2 = \blacksquare$	(c) $1 + 7 = \blacksquare$	(d) $7 + 2 = \blacksquare$
3.	(a) $3 + 6 = \blacksquare$	(b) $4 + 5 = \blacksquare$	(c) $0 + 0 = \blacksquare$	(d) $8 + 1 = \blacksquare$
4.	(a) $6 + 1 = \blacksquare$	(b) $5 + 3 = \blacksquare$	(c) $3 + 3 = \blacksquare$	(d) $7 + 8 = \blacksquare$

Complete these.

5.	(a) 5 +3 ___	(b) 2 +4 ___	(c) 3 +8 ___	(d) 9 +9 ___	(e) 6 +7 ___	(f) 6 +6 ___
6.	(a) 7 +5 ___	(b) 6 +4 ___	(c) 3 +9 ___	(d) 6 +5 ___	(e) 8 +9 ___	(f) 3 +7 ___
7.	(a) 8 +6 ___	(b) 8 +8 ___	(c) 7 +4 ___	(d) 5 +9 ___	(e) 6 +3 ___	(f) 0 +1 ___
8.	(a) 9 +2 ___	(b) 8 +4 ___	(c) 7 +7 ___	(d) 8 +5 ___	(e) 4 +8 ___	(f) 7 +6 ___
9.	(a) 4 +9 ___	(b) 9 +6 ___	(c) 9 +8 ___	(d) 8 +7 ___	(e) 9 +7 ___	(f) 8 +2 ___
10.	(a) 5 +5 ___	(b) 6 +8 ___	(c) 9 +5 ___	(d) 8 +3 ___	(e) 6 +9 ___	(f) 2 +8 ___

Mystery Fun

Find the answers to these mysteries.

1. Mary ate 4 cookies.
Then she ate 2 more cookies.
How many cookies did she eat?

4 is the number of cookies she ate first.
+2 is the number of cookies she ate next.

6 is the number of cookies she ate altogether.

2. Bob had 2 hockey cards.
He was given 7 more.
How many cards does he have?

2 is the number of cards he had.
+7 is the number of cards he was given.

■ is the number of cards he has now.

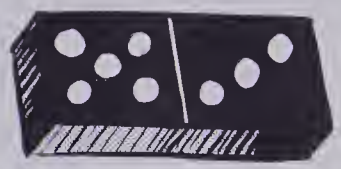
3. Jane had 3 marbles.
She won 5 more.
How many marbles does she have now?

■ is the number of marbles she had.
+■ is the number of marbles she won.

■ is the number of marbles she has now.

Addends and Sums

You can add numbers this way



$5 + 3 = 8$

addend + addend = sum

or this way.

$$\begin{array}{r} 3 \\ +5 \\ \hline 8 \end{array} \qquad \begin{array}{r} \text{addend} \\ +\ \text{addend} \\ \hline \text{sum} \end{array}$$

Numbers that you add are called addends.
The answer that you get when you add is called the sum.

Which of these are **addends?**

1. $3 + 4 = 7$
2. $6 + 2 = 8$

Copy and add. Circle the **addends.**

5. $5 + 3 = \blacksquare$
6. $3 + 3 = \blacksquare$

Which of these are **sums?**

9. $4 + 5 = 9$
10. $6 + 1 = 7$

Copy and add. Circle the **sums.**

13. $7 + 9 = \blacksquare$
14. $7 + 3 = \blacksquare$

3. $\begin{array}{r} 6 \\ +1 \\ \hline 7 \end{array}$

4. $\begin{array}{r} 4 \\ +4 \\ \hline 8 \end{array}$

7. $\begin{array}{r} 2 \\ +4 \\ \hline \blacksquare \end{array}$

8. $\begin{array}{r} 5 \\ +1 \\ \hline \blacksquare \end{array}$

11. $\begin{array}{r} 9 \\ +9 \\ \hline 18 \end{array}$

12. $\begin{array}{r} 9 \\ +3 \\ \hline 12 \end{array}$

15. $\begin{array}{r} 5 \\ +6 \\ \hline \blacksquare \end{array}$

16. $\begin{array}{r} 5 \\ +8 \\ \hline \blacksquare \end{array}$

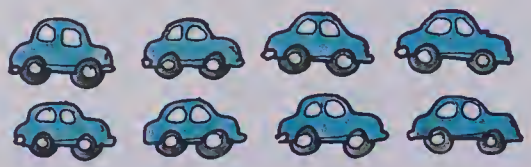
More Mysteries

1. Jane has 6 apples.
   Tina has 2 apples.

How many apples do both girls have?

$$\begin{array}{r} 6 \\ +2 \\ \hline \blacksquare \end{array}$$

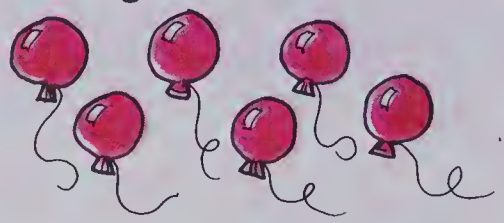
2. John has 4 cars.
   Tom has 4 cars.



How many cars do they have altogether?

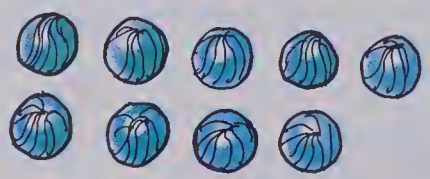
$$\begin{array}{r} 4 \\ +4 \\ \hline \blacksquare \end{array}$$

3. Susan has 3 balloons.
   Jane gave her 3 more.
   How many balloons does Susan have now?



4. Ted ate 2 candies.
   Then he ate 4 more.
   How many candies did he eat?

5. Maria had 5 marbles.
   She found 4 more.
   How many marbles does she have now?

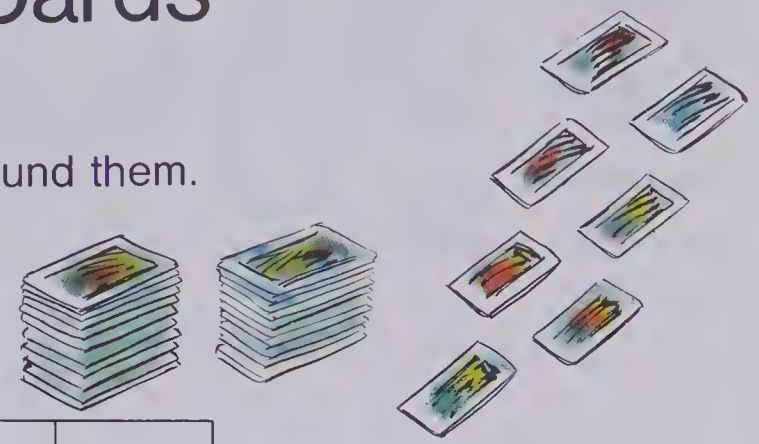


6. Tom picked 6 flowers.
   Then he picked 4 more.
   How many flowers does he have now?

Hockey Cards

John had 24 hockey cards.
He counted 2 sets of 10 and put elastics around them.
He had 4 left.

He won 3 more at school.
How many does he have now?



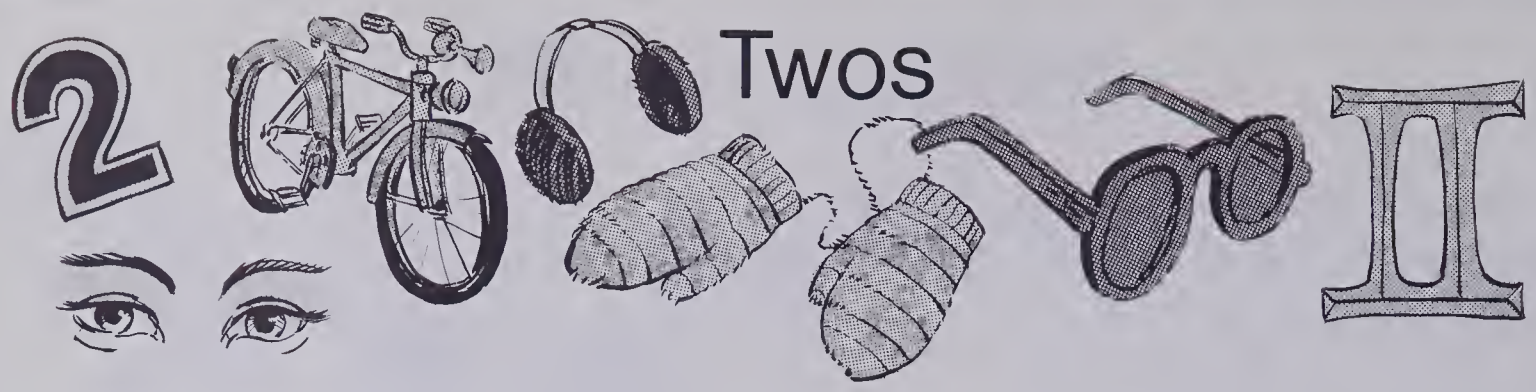
tens	ones
2	4
	3

→ 24
→ + 3
27

John has 27 cards.

Copy and complete.

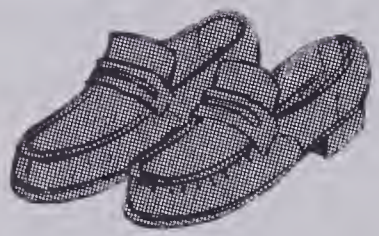
1. 36 + 2 = 38	2. 30 + 8 =	3. 12 + 5 =	4. 16 + 1 =	5. 10 + 6 =
6. 43 + 5 =	7. 21 + 6 =	8. 52 + 4 =	9. 23 + 4 =	10. 11 + 7 =
11. 52 + 6 =	12. 73 + 6 =	13. 94 + 4 =	14. 84 + 3 =	15. 32 + 5 =
16. 5 + 24 =	17. 3 + 62 =	18. 2 + 45 =	19. 6 + 32 =	20. 4 + 45 =



Twos

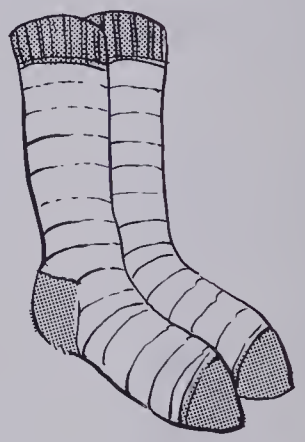
1. Make a "number strip".

Put 2 counters in each part of the number strip. Count by 2's.



2 4 6 8 10 ■ ■ ■ ■ ■

2. Write the numerals and finish the pattern.



3. What is the pattern?

Which numerals do you use over and over again?

■ ■ ■ ■ ■

Copy and complete.

4. 2, 4, 6, ■, ■, ■

5. 30, 32, ■, ■, ■

6. ■, ■, ■, 10, 12, 14

7. ■, ■, ■, 14, 16, 18

8. 10, 12, 14, ■, ■, ■

9. 40, 42, 44, ■, ■, ■

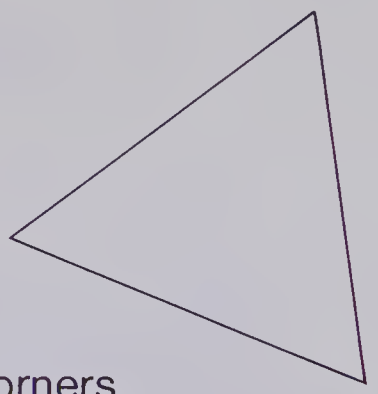
10. ■, ■, ■, 22, 24, 26

11. ■, ■, ■, 38, 40, 42

12. 20, 22, 24, ■, ■, ■

13. 50, 52, 54, ■, ■, ■

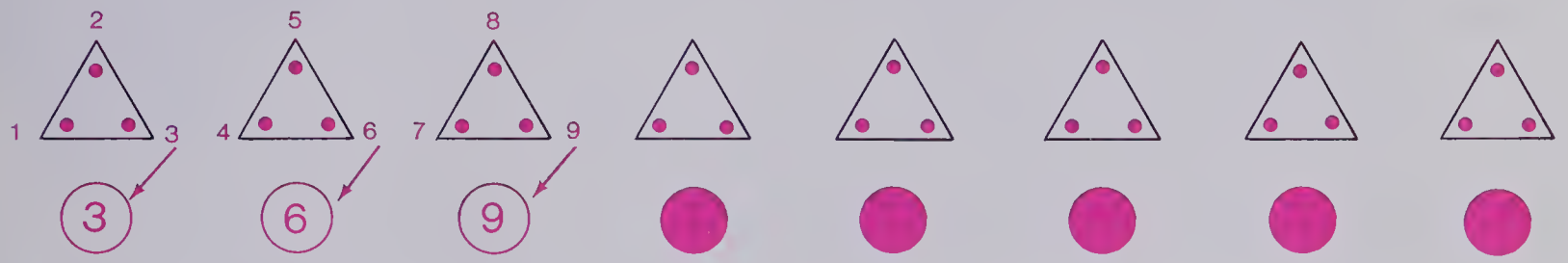
Threes



1. Take a triangle.

   How many **corners** does it have?

2. Draw some triangles.
   Put a dot on each **corner** and write the number of corners under your pictures like this.

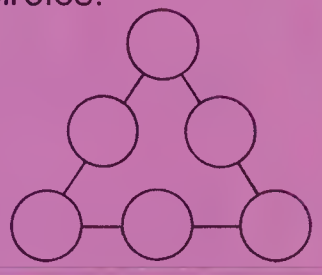


Copy and complete.

3. 3, 6, 9, ■, ■, ■
4. 18, 21, 24, ■, ■, ■
5. ■, ■, ■, 12, 15, 18
6. ■, ■, ■, 24, 27, 30
7. 9, 12, 15, ■, ■, ■
8. 24, 27, 30, ■, ■, ■
9. ■, ■, ■, 21, 24, 27
10. ■, ■, ■, 39, 42, 45
11. 15, 18, 21, ■, ■, ■
12. 30, 33, 36, ■, ■, ■
13. ■, ■, ■, 15, 18, 21
14. ■, ■, ■, 42, 45, 48

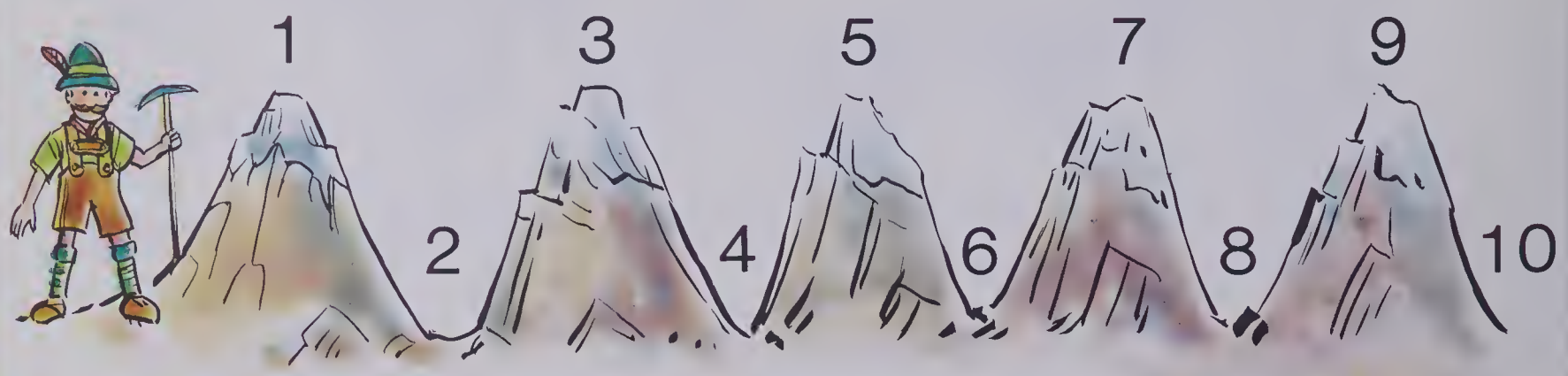
BRAINTICKLER

Place these numbers in circles:
1, 2, 3, 4, 5, 6.



Make each side of the shape add up to 10.

Odds and Evens



The numbers at the mountain tops are **odd numbers.**

The numbers in the valleys are **even numbers.**

1. Write the **odd numbers.**
2. Write the **even numbers.**
3. Name each "odd" or "even".

5 — odd	3	8	4	2
6	9	7	10	1

★4. How are you counting if you use only the **even** numbers? **odd** numbers?

★5. Draw a long line of mountains and valleys.
Write odd and even numbers as far as you can.
What numbers are used over and over again?

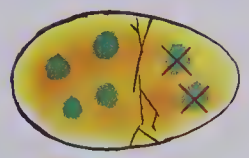
Subtraction Stories

How many birds altogether?
How many birds are flying away?
How many birds are left?

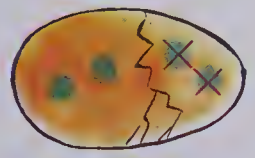
5 - 2 = ■

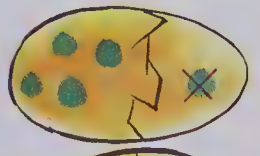
The number of birds that are left is called the **difference.**

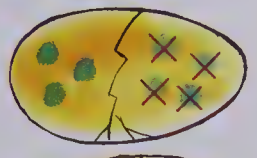
Subtract to find the difference.

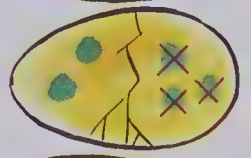
1.  6 - 2 = ■

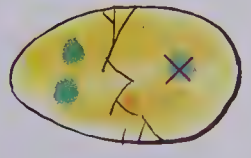
2. 8 - 3 = ■

3.  4 - 2 = ■

4.  5 - 1 = ■

5.  7 - 4 = ■

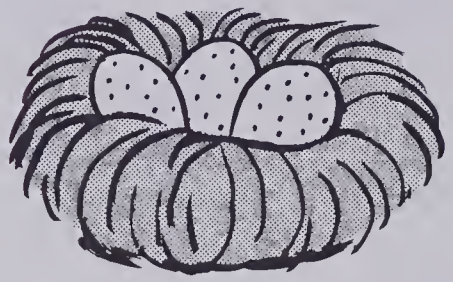
6.  5 - 3 = ■

7.  3 - 1 = ■

8. 6 - 3 = ■

3, 2, and 5

3 speckled eggs
+2 white eggs
5 eggs altogether



5 eggs altogether
- 2 eggs are taken away
3 eggs are left

You can make 4 number stories that go with these numbers.

3 + 2 = 5
2 + 3 = 5
5 - 2 = 3
5 - 3 = 2

Make 4 number stories for each of these.

1. 1, 2, 3

1 + 2 = ■
2 + 1 = ■
3 - 2 = ■
3 - 1 = ■

2. 2, 8, 10

2 + 8 = ■
8 + 2 = ■
10 - 8 = ■
10 - 2 = ■

3. 5, 2, 7

4. 4, 3, 7

5. 2, 4, 6

6. 6, 3, 9

7. 5, 1, 4

8. 6, 4, 10

9. 5, 1, 6

10. 5, 9, 4

11. 10, 9, 1

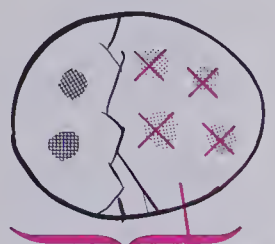
12. 13, 8, 5

★ **13.** 17, 8, 9

★ **14.** 9, 16, 7

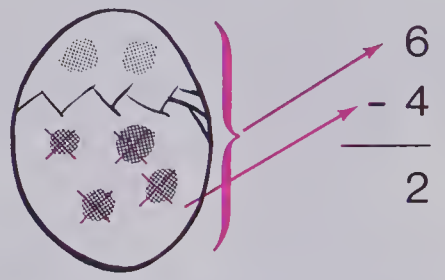
Up and Down Subtraction Stories

Subtraction stories can go up and down.



6 - 4 = 2

or



Subtract.

1.	(a) 7 - 3	(b) 5 - 2	(c) 6 - 3	(d) 4 - 2	(e) 8 - 5	(f) 3 - 2
2.	(a) 9 - 6	(b) 8 - 4	(c) 5 - 3	(d) 7 - 5	(e) 4 - 3	(f) 6 - 2
3.	(a) 8 - 3	(b) 6 - 1	(c) 7 - 4	(d) 9 - 4	(e) 5 - 1	(f) 7 - 7
4.	(a) 7 - 2	(b) 9 - 5	(c) 8 - 2	(d) 2 - 1	(e) 6 - 5	(f) 4 - 1
5.	(a) 3 - 3	(b) 5 - 4	(c) 6 - 6	(d) 8 - 6	(e) 7 - 1	(f) 3 - 1

Falling Leaves

17 leaves.
− 9 leaves fell down.

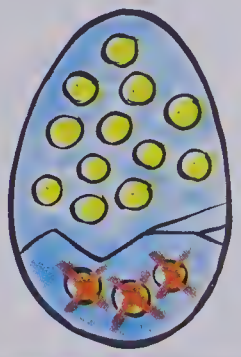
8 leaves left on the tree.

Subtract.

1.	(a)	11 − 4 =	(b)	16 − 7 =	(c)	14 − 6 =	(d)	18 − 9 =	(e)	13 − 5 =	(f)	15 − 6 =
2.	(a)	10 − 9 =	(b)	12 − 3 =	(c)	16 − 9 =	(d)	13 − 8 =	(e)	17 − 8 =	(f)	16 − 6 =
3.	(a)	13 − 7 =	(b)	14 − 8 =	(c)	11 − 2 =	(d)	17 − 9 =	(e)	14 − 7 =	(f)	15 − 9 =
4.	(a)	14 − 5 =	(b)	16 − 8 =	(c)	12 − 0 =	(d)	11 − 5 =	(e)	15 − 8 =	(f)	13 − 9 =
5.	(a)	12 − 4 =	(b)	13 − 4 =	(c)	15 − 7 =	(d)	10 − 6 =	(e)	14 − 9 =	(f)	12 − 6 =

Larger Numbers

You can subtract from larger numbers.



$$\begin{array}{r} 15 \\ -\ 3 \\ \hline 12 \end{array}$$

	tens	ones
	1	5
−		3
	1	2

You subtract ones.
5 − 3 = 2

Complete these.

1. (a) $\begin{array}{r} 18 \\ -\ 4 \\ \hline 14 \end{array}$ (b) $\begin{array}{r} 16 \\ -\ 2 \\ \hline \end{array}$ (c) $\begin{array}{r} 14 \\ -\ 3 \\ \hline \end{array}$ (d) $\begin{array}{r} 13 \\ -\ 2 \\ \hline \end{array}$ (e) $\begin{array}{r} 15 \\ -\ 4 \\ \hline \end{array}$

2. (a) $\begin{array}{r} 16 \\ -\ 5 \\ \hline \end{array}$ (b) $\begin{array}{r} 14 \\ -\ 1 \\ \hline \end{array}$ (c) $\begin{array}{r} 13 \\ -\ 1 \\ \hline \end{array}$ (d) $\begin{array}{r} 15 \\ -\ 2 \\ \hline \end{array}$ (e) $\begin{array}{r} 18 \\ -\ 5 \\ \hline \end{array}$

3. (a) $\begin{array}{r} 14 \\ -\ 2 \\ \hline \end{array}$ (b) $\begin{array}{r} 18 \\ -\ 8 \\ \hline \end{array}$ (c) $\begin{array}{r} 15 \\ -\ 3 \\ \hline \end{array}$ (d) $\begin{array}{r} 18 \\ -\ 7 \\ \hline \end{array}$ (e) $\begin{array}{r} 16 \\ -\ 3 \\ \hline \end{array}$

4. (a) $\begin{array}{r} 34 \\ -\ 4 \\ \hline \end{array}$ (b) $\begin{array}{r} 18 \\ -\ 1 \\ \hline \end{array}$ (c) $\begin{array}{r} 28 \\ -\ 3 \\ \hline \end{array}$ (d) $\begin{array}{r} 86 \\ -\ 1 \\ \hline \end{array}$ (e) $\begin{array}{r} 98 \\ -\ 0 \\ \hline \end{array}$

5. (a) $\begin{array}{r} 23 \\ -\ 3 \\ \hline \end{array}$ (b) $\begin{array}{r} 48 \\ -\ 6 \\ \hline \end{array}$ (c) $\begin{array}{r} 56 \\ -\ 0 \\ \hline \end{array}$ (d) $\begin{array}{r} 12 \\ -\ 1 \\ \hline \end{array}$ (e) $\begin{array}{r} 71 \\ -\ 1 \\ \hline \end{array}$

Subtraction Mysteries

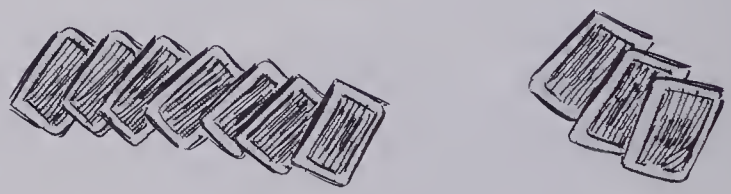
1. 8 birds were on the ground.
   5 birds flew away.
   How many birds are left?

2. A nest had 12 eggs.
   7 eggs hatched.
   How many eggs are left?

3. 17 apples were on the tree.
   9 apples fell down.
   How many apples are left on the tree?

4. 13 leaves were on the tree.
   9 leaves blew away.
   How many leaves are on the tree now?

5. John had 10 hockey cards.
   He lost 3 cards.
   How many does he have now?



6. Marie had 12 marbles.
   She lost 7 marbles.
   How many does she have now?

Practice

Add.

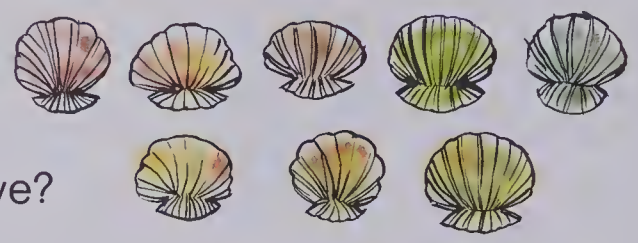
1.	(a) 5 + 4 =	(b) 2 + 3 =	(c) 3 + 4 =	(d) 3 + 6 =	(e) 2 + 5 =	(f) 4 + 2 =
2.	(a) 6 + 6 =	(b) 4 + 4 =	(c) 6 + 2 =	(d) 7 + 5 =	(e) 6 + 4 =	(f) 6 + 0 =
3.	(a) 7 + 8 =	(b) 8 + 9 =	(c) 9 + 5 =	(d) 4 + 9 =	(e) 9 + 9 =	(f) 7 + 9 =
4.	(a) 12 + 5 =	(b) 44 + 5 =	(c) 33 + 6 =	(d) 21 + 8 =	(e) 74 + 4 =	(f) 60 + 7 =

Subtract.

5.	(a) 6 - 2 =	(b) 8 - 3 =	(c) 9 - 5 =	(d) 3 - 2 =	(e) 7 - 3 =	(f) 9 - 2 =
6.	(a) 9 - 0 =	(b) 7 - 4 =	(c) 5 - 3 =	(d) 8 - 2 =	(e) 7 - 2 =	(f) 9 - 1 =
7.	(a) 4 - 3 =	(b) 8 - 5 =	(c) 6 - 5 =	(d) 6 - 4 =	(e) 8 - 7 =	(f) 9 - 3 =
8.	(a) 12 - 1 =	(b) 15 - 2 =	(c) 18 - 4 =	(d) 16 - 3 =	(e) 18 - 3 =	(f) 17 - 7 =

At the Sea Shore

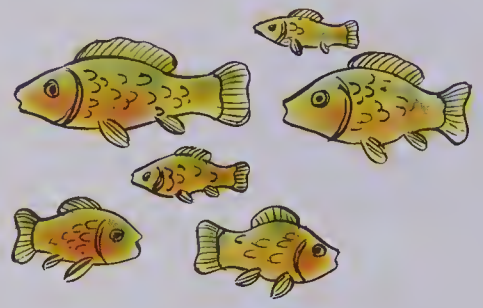
Kim has 5 shells.
Jane has 3 shells.



How many **more** does Kim have?

$$\begin{array}{r} 5 \\ -\ 3 \\ \hline 2 \end{array}$$

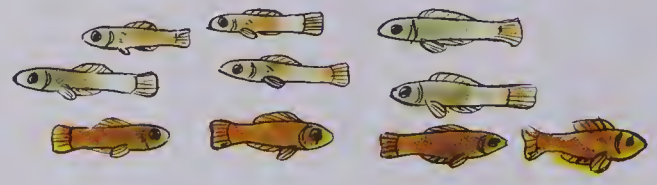
David caught 4 fish.
Jim caught 2 fish.



How many **more** did David catch?

$$\begin{array}{r} 4 \\ -\ 2 \\ \hline 2 \end{array}$$

1. A guppy had 6 babies.
A goldfish had 4 babies.
How many more did the guppy have?

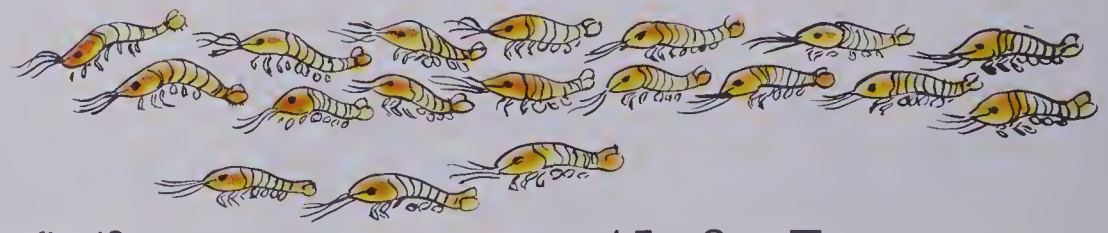


$6 - 4 = \blacksquare$

2. Tina collected 7 oysters.
Jim collected 4 oysters.
How many more did Tina collect?

$7 - 4 = \blacksquare$

3. Jane found 15 shrimps.
Tom found 3 shrimps.
How many more did Jane find?



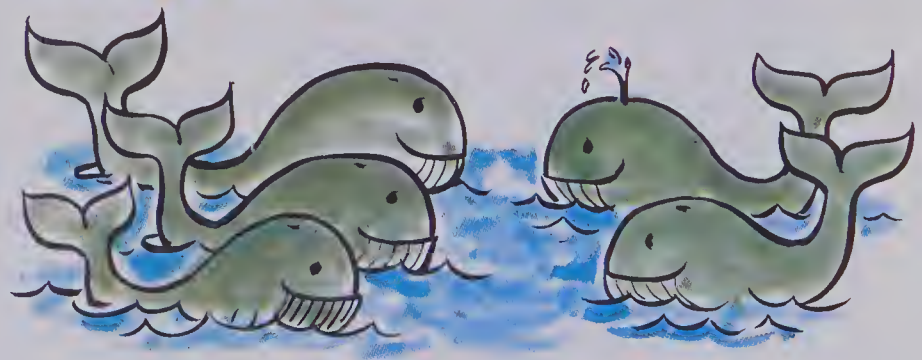
$15 - 3 = \blacksquare$

Conservation Officer

1. Jill found 6 owls.
   Mario found 4 owls.
   How many fewer did Mario find?

2. Laura saw 9 eagles.
   Linda saw 7 eagles.
   How many fewer did Linda see?

3. Irene saw 3 whales.
   Lois saw 2 whales.
   How many fewer did Lois see?



4. Fred saw 13 dolphins.
   Tony saw 8 dolphins.
   How many fewer did Tony see?

5. Alex spotted 17 cougars.
   Tammy spotted 8 cougars.
   How many fewer did Tammy spot?

6. Guy spotted 18 bears.
   Ray spotted 9 bears.
   How many fewer did Ray spot?

Adding Three Numbers

Mary wanted a 3-scoop ice-cream cone.

1 scoop of chocolate for 4 cents.
1 scoop of vanilla for 3 cents.
1 scoop of strawberry for 5 cents.

How much did it cost?

$$4 + 3 + 5$$

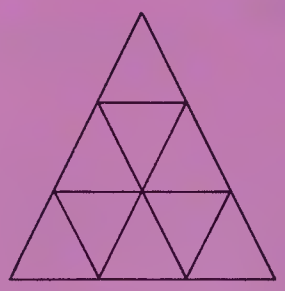
$$\begin{array}{r} 4 \\ 3 \\ +5 \\ \hline 12 \end{array}$$

4 + 3 = 7, 7 + 5 = 12

1. 2 2 +4	**2.** 2 2 +6	**3.** 4 1 +1	**4.** 4 2 +3	**5.** 4 5 +2	**6.** 4 4 +4
7. 4 2 +8	**8.** 2 3 +3	**9.** 3 2 +5	**10.** 4 3 +4	**11.** 1 4 +2	**12.** 3 1 +4

BRAINTICKLER

How many cones (triangles)?



- big triangles
- medium triangles
- little triangles

- triangles

Long Mysteries

1. The witch has 4 black brooms,
5 red brooms, and 3 purple brooms.
How many brooms does she have altogether?

$$\begin{array}{r} 4 \\ 5 \\ +3 \\ \hline \end{array}$$

2. The goblin has 2 black hats,
4 red hats, and 3 purple hats.
How many hats does he have altogether?

3. Mary has 6 pumpkins.
David has 5 pumpkins.
Jane has 4 pumpkins.
How many pumpkins altogether?

Copy and add.

4.	**5.**	**6.**	**7.**	**8.**	**9.**
3	1	4	3	2	1
4	1	2	1	2	2
+2	+7	+3	+4	+3	+5
___	___	___	___	___	___

10.	**11.**	**12.**	**13.**	**14.**	**15.**
3	3	5	4	3	2
2	1	2	6	3	3
+6	+5	+4	+2	+3	+4
___	___	___	___	___	___

Roman Numerals

I II III IV V VI VII VIII IX X XI XII

Roman Numerals are easy to use.
They are like **adding** or **subtracting numerals.**

I = 1
V = 5
X = 10

What is: III?
VI (one after 5)?
IX (one before 10)?

Write **our** numerals for these. Copy and complete.

1. X = ■
2. VI = ■
3. IX = ■
4. XI = ■
5. VII = ■
6. III = ■
7. V = ■
8. I = ■
9. XII = ■
10. II = ■
11. VIII = ■
12. IV = ■

Write number stories for these.

13. III = 1 + 1 + 1
14. VII = ■
15. XI = ■
16. VIII = ■
17. IX = ■
18. IV = ■
19. VI = ■
20. XII = ■

BRAINTICKLER

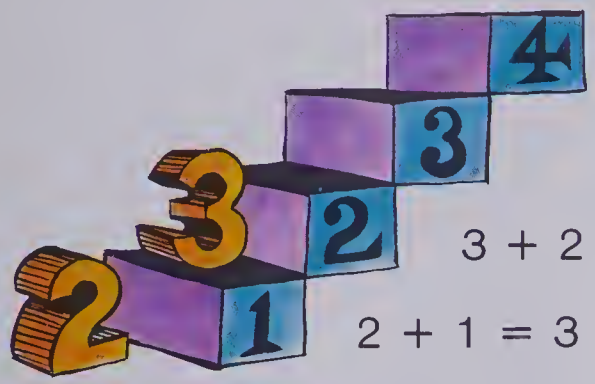
I am more than V + III.
I am less than XII - II.

Who am I?

Addition Stairs

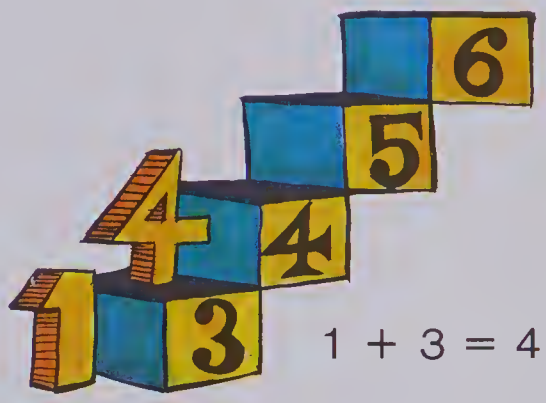
Add the numbers beside each other and put the answer on the next step up. This number will be one of the numbers that you add next.

Copy and complete.



3 + 2 = ■

2 + 1 = 3

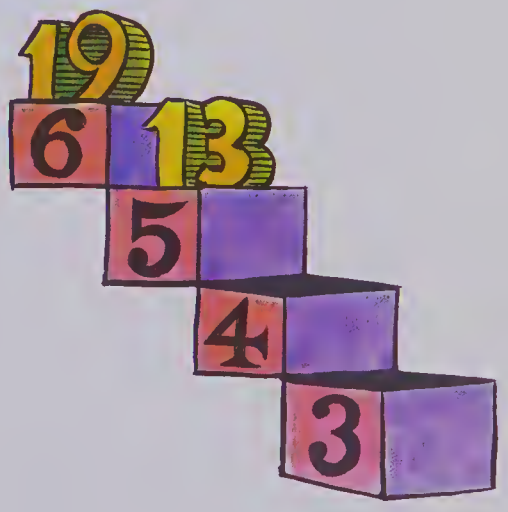


1 + 3 = 4

Now use these as **subtraction stairs.**

12 - 4 = 8

19 - 6 = 13



Make up some more addition and subtraction stairs of your own.

Practice

Add.

1. 4 +6	**2.** 5 +8	**3.** 9 +4	**4.** 10 + 3	**5.** 14 + 5	**6.** 25 + 3
7. 3 +14	**8.** 2 +25	**9.** 6 +40	**10.** 2 +36	**11.** 8 +21	**12.** 7 +60
13. 62 + 4	**14.** 46 + 3	**15.** 50 + 8	**16.** 26 + 2	**17.** 42 + 4	**18.** 31 + 8

Subtract.

19. 9 - 4	**20.** 7 - 2	**21.** 8 - 5	**22.** 14 - 7	**23.** 18 - 8	**24.** 15 - 6
25. 12 - 8	**26.** 10 - 6	**27.** 17 - 9	**28.** 12 - 0	**29.** 15 - 8	**30.** 24 - 2
31. 74 - 3	**32.** 48 - 3	**33.** 65 - 2	**34.** 27 - 3	**35.** 18 - 4	**36.** 36 - 5

Solve.

37. Jane found 24 shells.
Tom gave her 5 more.
How many does she
have now?

38. Tom found 14 shells.
He gave 5 away.
How many does
he have left?

Chapter Test

Copy and complete.

Add.

1. 4 + 3 = ___	**2.** 5 + 2 = ___	**3.** 8 + 1 = ___	**4.** 2 + 7 = ___	**5.** 6 + 4 = ___
6. 3 + 8 = ___	**7.** 9 + 8 = ___	**8.** 5 + 32 = ___	**9.** 50 + 1 = ___	**10.** 63 + 6 = ___

Subtract.

11. 8 − 3 = ___	**12.** 9 − 7 = ___	**13.** 6 − 5 = ___	**14.** 7 − 4 = ___	**15.** 5 − 5 = ___
16. 16 − 2 = ___	**17.** 18 − 4 = ___	**18.** 17 − 7 = ___	**19.** 18 − 9 = ___	**20.** 14 − 8 = ___

21. Which number is greater? 26 or 32 58 or 52

22. Complete: 3, 6, 9, ■, ■, ■, ■.

23. Is 8 odd or even?

24. Write the numeral for IX.

25. Write the numeral for sixty-eight.

26. Tom made 6 cookies.
Jane made 13 cookies.
How many cookies altogether?

27. Maggie has 18 rings.
Jill has 5 rings.
How many more rings does Maggie have?

Chapter 2

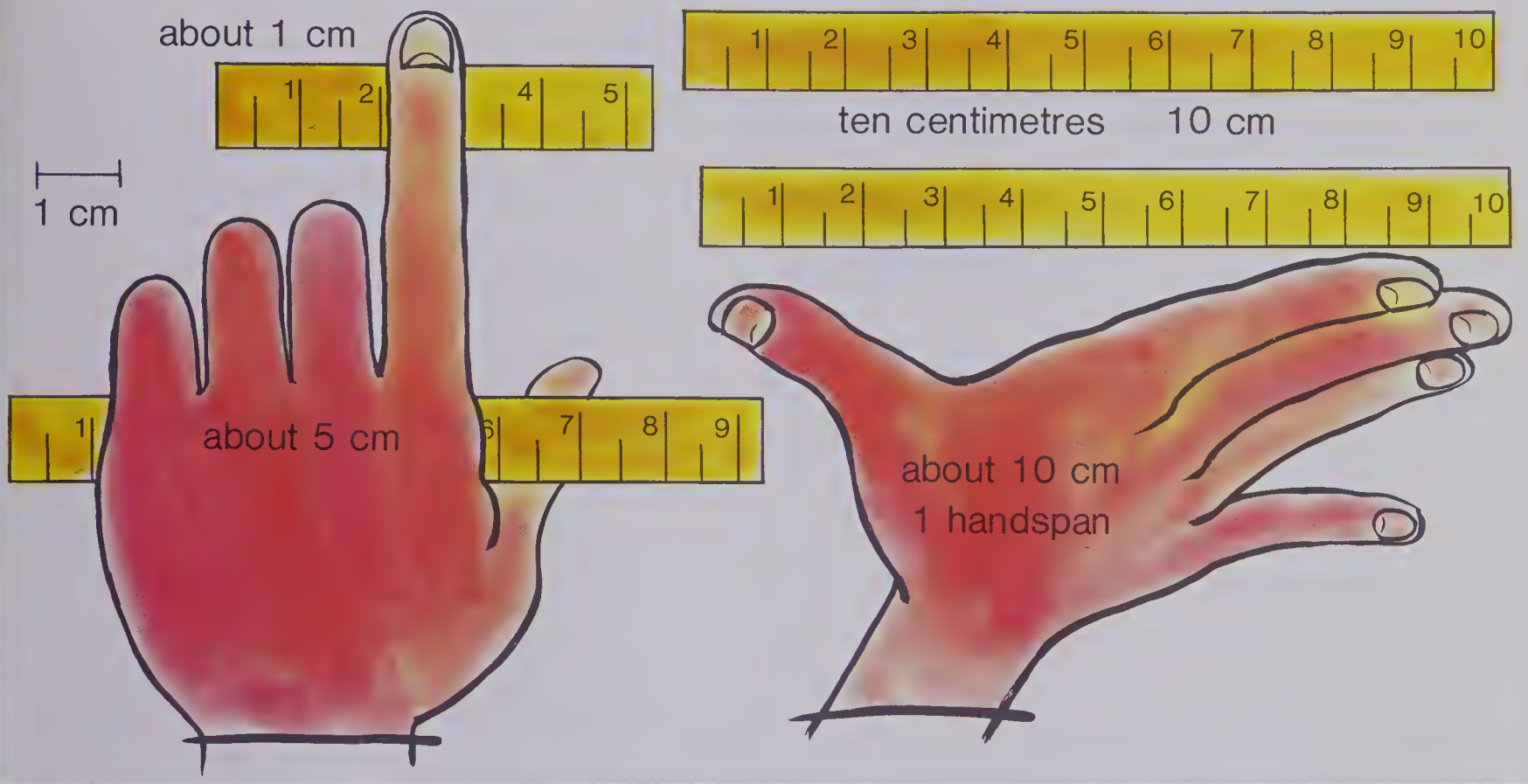
Whole Numbers

Place Value to 3 Digits

Addition and Subtraction

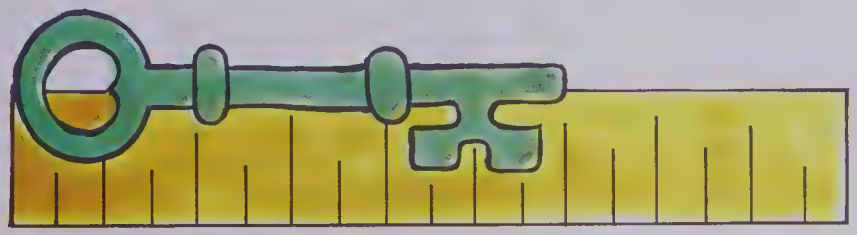
Measurement: Centimetres and Metres

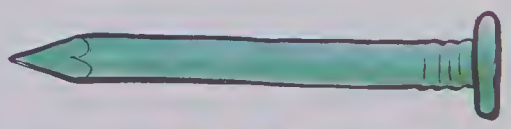
The Centimetre (cm)

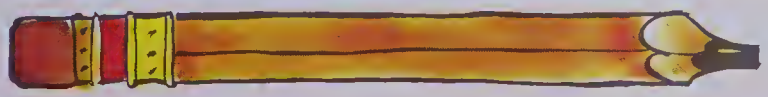


1. Measure *your* thumbnail, hand, and handspan.

Number of centimetres?

2. 

3. 

4. 

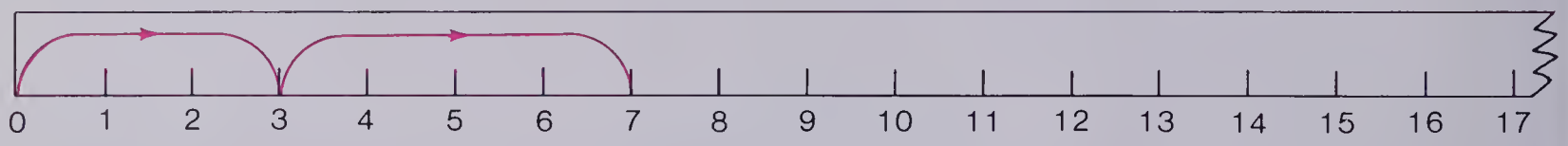
5.

Use a *centimetre* ruler. Guess first. Then measure.

6. chalkboard eraser
7. pencil
8. book
9. shoe
10. chalk

Adding on Your Ruler

You can use your ruler to help you add.
Just follow the bouncing arrow.

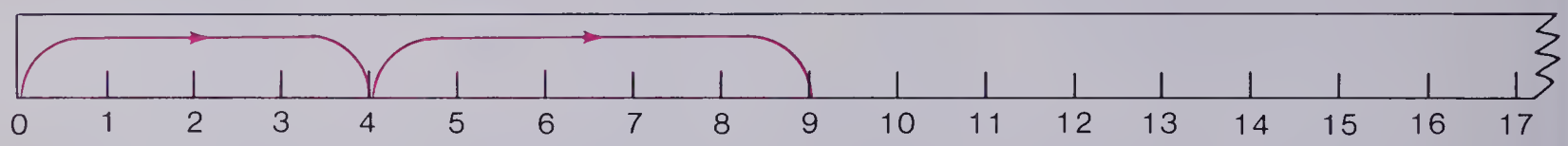


You jump 3 spaces. "3" is the first addend.
You jump 4 more spaces. "4" is the second addend.
The sum is "7".

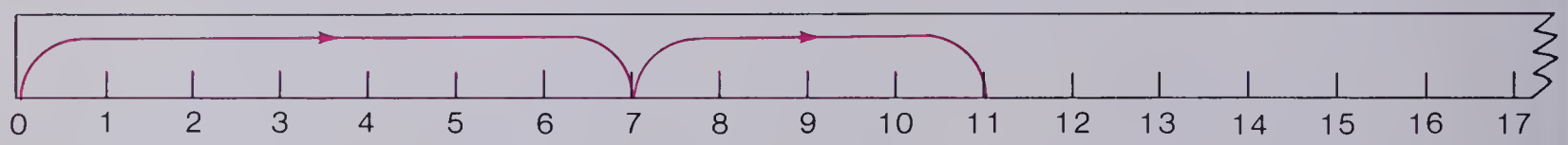
$$\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$$

Write the number stories for these.

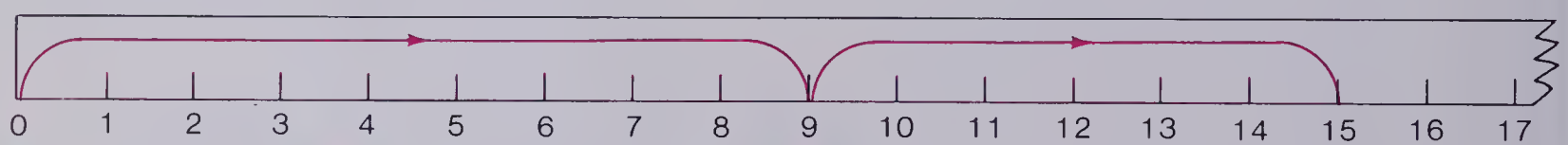
1.



2.



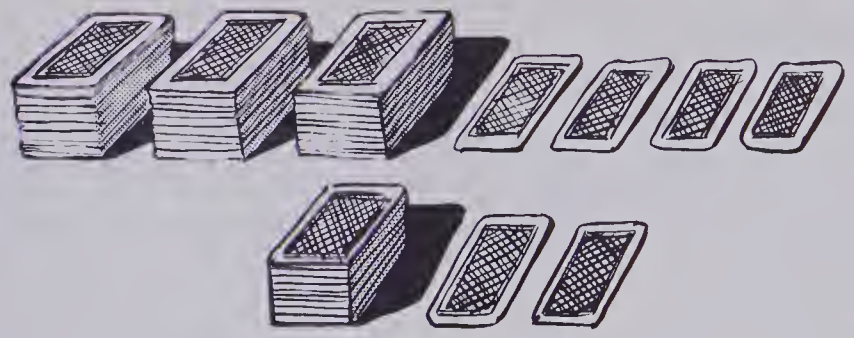
3.



4. 4 + 6	**5.** 8 + 7	**6.** 2 + 10	**7.** 5 + 8
8. 11 + 6	**9.** 3 + 9	**10.** 1 + 5	**11.** 13 + 4
12. 9 + 4	**13.** 7 + 7	**14.** 5 + 9	**15.** 2 + 14

Adding Big Numbers

Kim has 34 cards.
Tom has 12 cards.
How many do *they* have?



$$\begin{array}{r} 34 \\ +12 \\ \hline \end{array}$$

Add the numbers in the one's place.

	tens	ones
	3	4
+	1	2
		6

$4 + 2 = 6$

Add the numbers in the ten's place.

	tens	ones
	3	4
+	1	2
	4	6

$3 + 1 = 4$

So $\begin{array}{r} 34 \\ +12 \\ \hline 46 \end{array}$

Copy and complete.

1. $\begin{array}{r} 37 \\ +21 \\ \hline 58 \end{array}$

2. $\begin{array}{r} 52 \\ +34 \\ \hline \end{array}$

3. $\begin{array}{r} 73 \\ +24 \\ \hline \end{array}$

4. $\begin{array}{r} 25 \\ +14 \\ \hline \end{array}$

5. $\begin{array}{r} 48 \\ +41 \\ \hline \end{array}$

6. $\begin{array}{r} 64 \\ +32 \\ \hline \end{array}$

7. $\begin{array}{r} 36 \\ +63 \\ \hline \end{array}$

8. $\begin{array}{r} 56 \\ +41 \\ \hline \end{array}$

9. $\begin{array}{r} 64 \\ +23 \\ \hline \end{array}$

10. $\begin{array}{r} 75 \\ +\ 3 \\ \hline \end{array}$

11. $\begin{array}{r} 45 \\ +30 \\ \hline \end{array}$

12. $\begin{array}{r} 54 \\ +42 \\ \hline \end{array}$

Practice

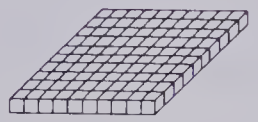
Copy and complete.

1.	(a) 32 + 56	(b) 54 + 14	(c) 35 + 24	(d) 22 + 51	(e) 14 + 51	(f) 65 + 11
2.	(a) 82 + 13	(b) 71 + 14	(c) 53 + 25	(d) 33 + 40	(e) 62 + 24	(f) 23 + 44
3.	(a) 12 + 74	(b) 23 + 64	(c) 51 + 23	(d) 15 + 43	(e) 73 + 6	(f) 64 + 13
4.	(a) 14 + 42	(b) 50 + 21	(c) 32 + 25	(d) 26 + 31	(e) 13 + 32	(f) 34 + 12
5.	(a) 36 + 22	(b) 23 + 34	(c) 47 + 52	(d) 50 + 36	(e) 43 + 52	(f) 16 + 12
6.	(a) 14 + 32	(b) 35 + 60	(c) 24 + 32	(d) 42 + 3	(e) 73 + 16	(f) 20 + 70
7.	(a) 40 + 40	(b) 34 + 25	(c) 3 + 63	(d) 60 + 30	(e) 26 + 42	(f) 34 + 63

Tens and Hundreds

1
one

10
ten

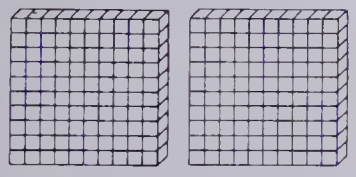


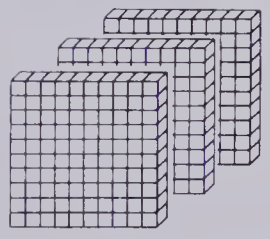
100
10 tens = 100
one hundred

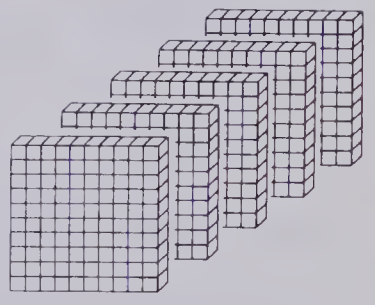
Make these stacks. Keep counting.

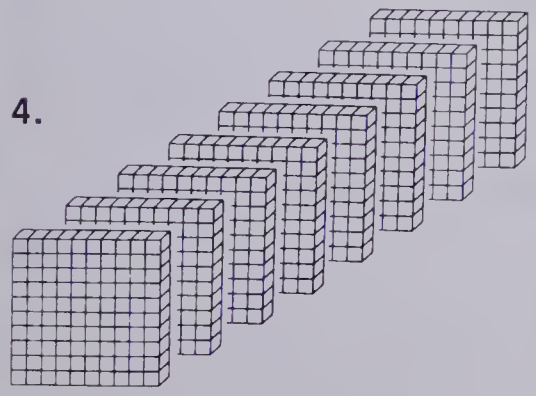
10 20 30 ■ ■ ■ ■ ■ ■ ■

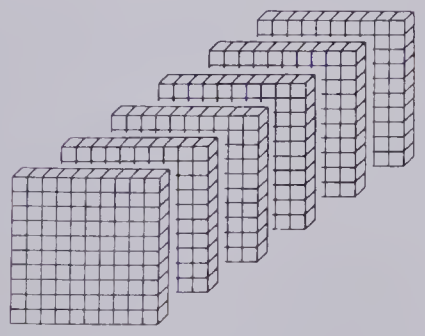
How many?

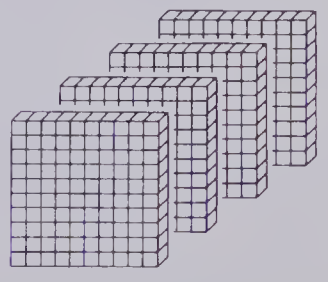
1. 

2. 

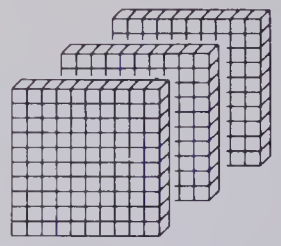
3. 

4. 

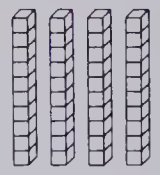
5. 

6. 

Three Digits



3 hundreds



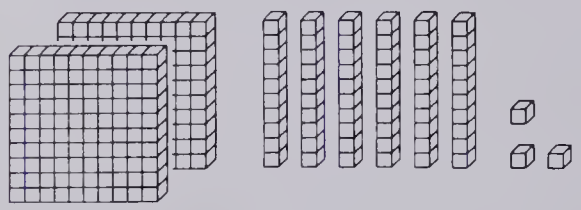
4 tens

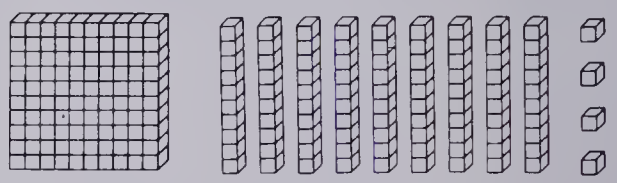
6 ones

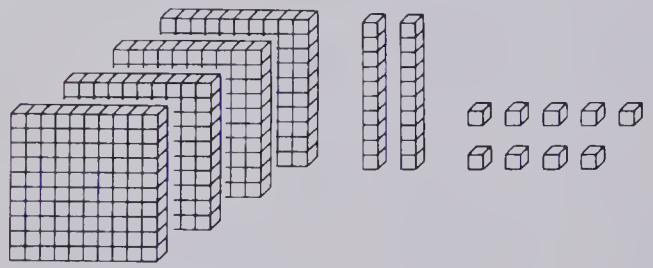
346

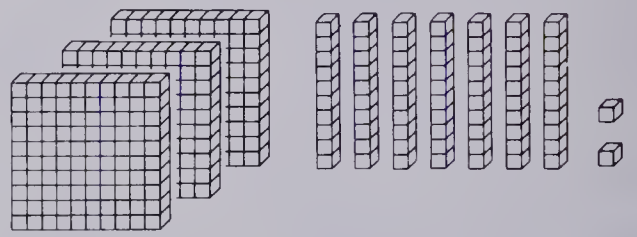
three hundred forty-six

How many?

1. 

2. 

3. 

4. 

Write the numeral.

5. 6 hundreds 4 tens 2 ones 642

6. 4 hundreds 3 tens 1 one

7. 2 hundreds 4 tens 7 ones

8. 5 hundreds 6 tens 2 ones

9. 3 hundreds 1 ten 0 ones

10. 7 hundreds 0 tens 6 ones

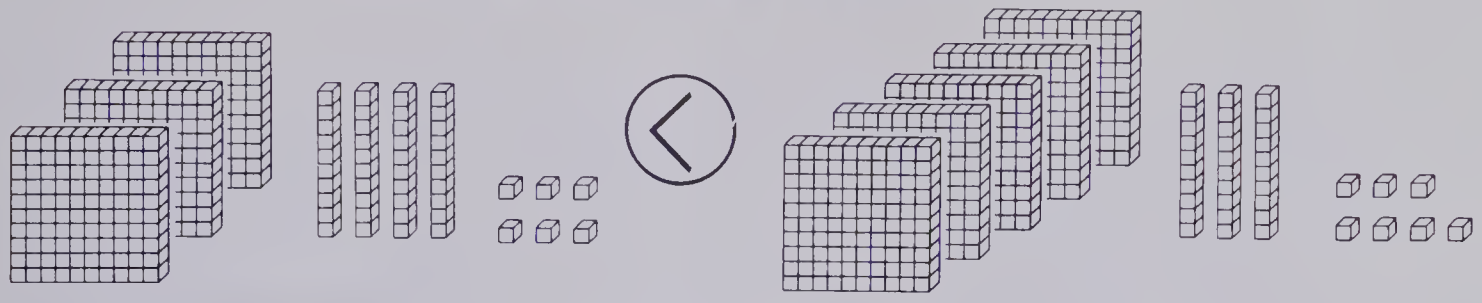
What does the 3 mean in:

11. 123?

12. 346?

13. 237?

Comparing Numbers



346 has fewer hundreds than 537.
346 is less than 537.
346 < 537

346 ● 332
346 and 332 both have 3 hundreds.
46 > 32
346 > 332

346 ● 348
Both have 3 hundreds and 4 tens.
6 < 8
346 < 348

Check hundreds first. Then tens. Then ones.

Which number has more hundreds?

1. 173 or 754
2. 947 or 884
3. 891 or 499

Which number has more tens?

4. 346 or 332
5. 427 or 435
6. 129 or 113

Which has more ones?

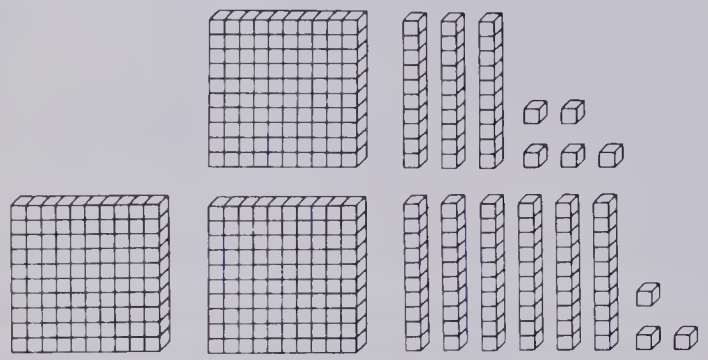
7. 385 or 389
8. 653 or 651
9. 121 or 126

Copy and write < or > in place of the ●.

10. 221 ● 122
11. 386 ● 929
12. 536 ● 839
13. 127 ● 283
14. 641 ● 652
15. 521 ● 522
16. 135 ● 98
17. 27 ● 227
18. 359 ● 399

Adding Hundreds

Add 135 + 263.



hundreds	tens	ones
1	3	5
2	6	3
3	9	8

$$\begin{array}{r} 135 \\ +263 \\ \hline 398 \end{array}$$

Add these.

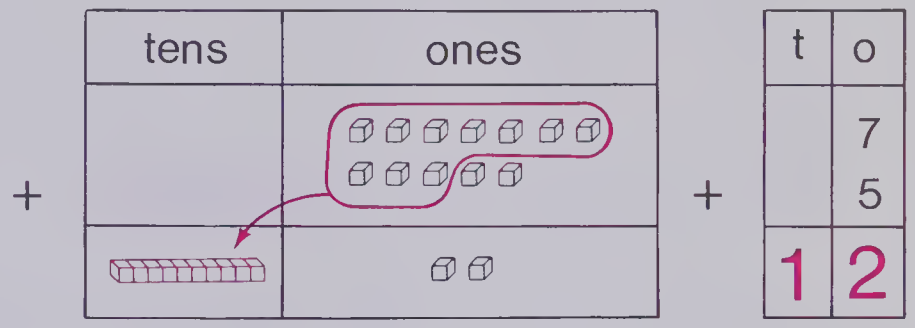
1.	(a) $\begin{array}{r} 361 \\ +433 \\ \hline 794 \end{array}$	(b) $\begin{array}{r} 248 \\ +351 \\ \hline \end{array}$	(c) $\begin{array}{r} 625 \\ +234 \\ \hline \end{array}$	(d) $\begin{array}{r} 786 \\ +113 \\ \hline \end{array}$	(e) $\begin{array}{r} 384 \\ +213 \\ \hline \end{array}$
2.	(a) $\begin{array}{r} 412 \\ +367 \\ \hline \end{array}$	(b) $\begin{array}{r} 541 \\ +236 \\ \hline \end{array}$	(c) $\begin{array}{r} 862 \\ +126 \\ \hline \end{array}$	(d) $\begin{array}{r} 845 \\ +134 \\ \hline \end{array}$	(e) $\begin{array}{r} 155 \\ +434 \\ \hline \end{array}$
3.	(a) $\begin{array}{r} 326 \\ +453 \\ \hline \end{array}$	(b) $\begin{array}{r} 586 \\ +\ 13 \\ \hline \end{array}$	(c) $\begin{array}{r} 415 \\ +\ 72 \\ \hline \end{array}$	(d) $\begin{array}{r} 561 \\ +\ 30 \\ \hline \end{array}$	(e) $\begin{array}{r} 570 \\ +128 \\ \hline \end{array}$
4.	(a) $\begin{array}{r} 607 \\ +341 \\ \hline \end{array}$	(b) $\begin{array}{r} 708 \\ +101 \\ \hline \end{array}$	(c) $\begin{array}{r} 606 \\ +140 \\ \hline \end{array}$	(d) $\begin{array}{r} 432 \\ +\ 6 \\ \hline \end{array}$	(e) $\begin{array}{r} 890 \\ +109 \\ \hline \end{array}$
5.	(a) $\begin{array}{r} 381 \\ +204 \\ \hline \end{array}$	(b) $\begin{array}{r} 695 \\ +304 \\ \hline \end{array}$	(c) $\begin{array}{r} 86 \\ +113 \\ \hline \end{array}$	(d) $\begin{array}{r} 403 \\ +591 \\ \hline \end{array}$	(e) $\begin{array}{r} 8 \\ +381 \\ \hline \end{array}$

Trading

Complete.

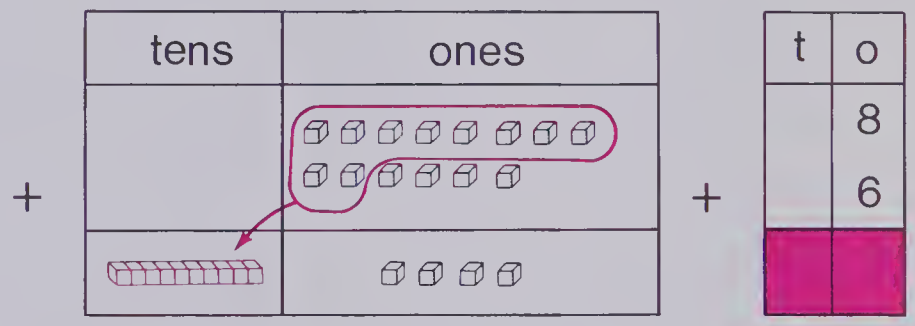
1. Jack had 7 ones.
He added 5 ones.

He had ■ ten and ■ ones.
He had ■ .



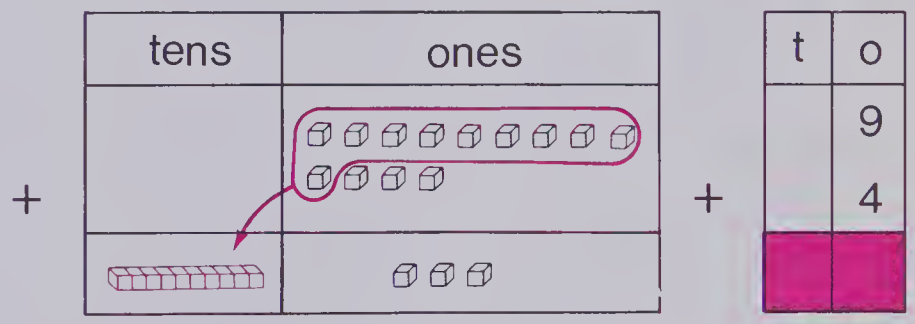
2. Pat had 8 ones.
She added 6 ones.

She had ■ ten and ■ ones.
She had ■ .



3. Cheryl had 9 ones.
She added 4 ones.

She had ■ ten and ■ ones.
She had ■ .



Add.

4. $\begin{array}{r} 7 \\ +9 \\ \hline \end{array}$

5. $\begin{array}{r} 6 \\ +8 \\ \hline \end{array}$

6. $\begin{array}{r} 7 \\ +7 \\ \hline \end{array}$

7. $\begin{array}{r} 8 \\ +5 \\ \hline \end{array}$

8. $\begin{array}{r} 3 \\ +9 \\ \hline \end{array}$

9. $\begin{array}{r} 6 \\ +7 \\ \hline \end{array}$

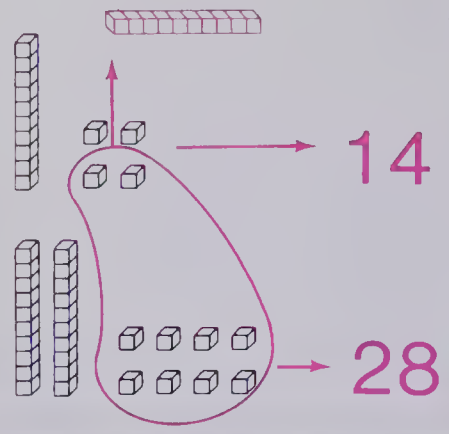
10. $\begin{array}{r} 9 \\ +8 \\ \hline \end{array}$

11. $\begin{array}{r} 8 \\ +7 \\ \hline \end{array}$

12. $\begin{array}{r} 6 \\ +5 \\ \hline \end{array}$

13. $\begin{array}{r} 7 \\ +5 \\ \hline \end{array}$

An "Extra Ten"



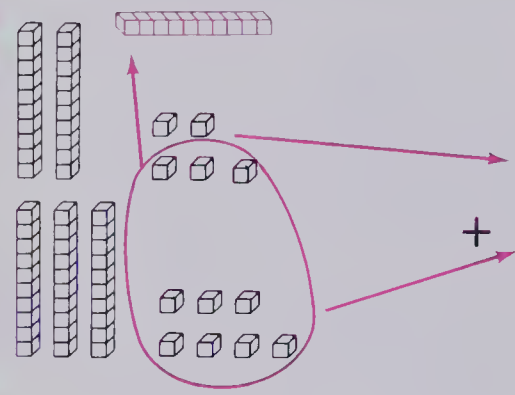
	tens	ones
	1	4
+	2	8

	tens	ones
	1	
	1	4
+	2	8
	4	2

4 + 8 = 1 ten 2 ones

Copy and complete in a place-value chart. Watch for "extra tens".

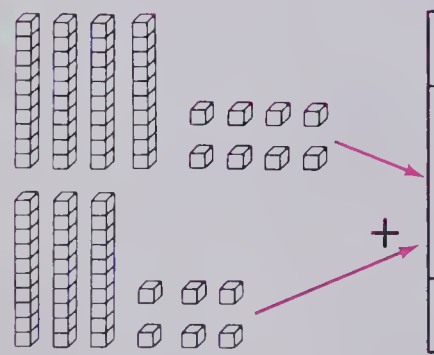
1.



	tens	ones
	■	
	2	5
+	3	7
	■	■

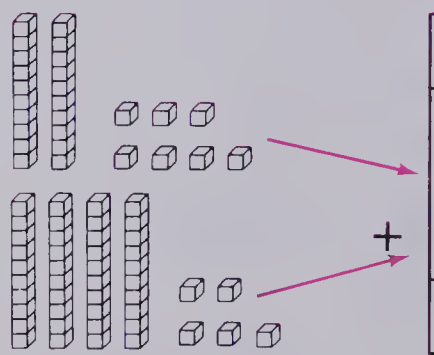
5 + 7 = ■ tens and ■ ones

2.



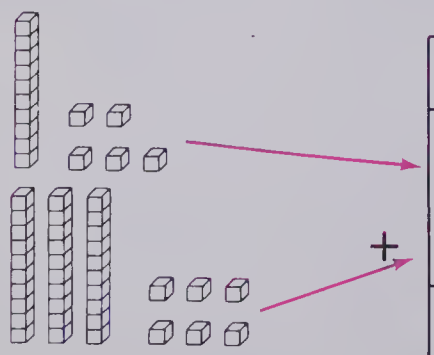
tens	ones
4	8
3	6
■	■

3.



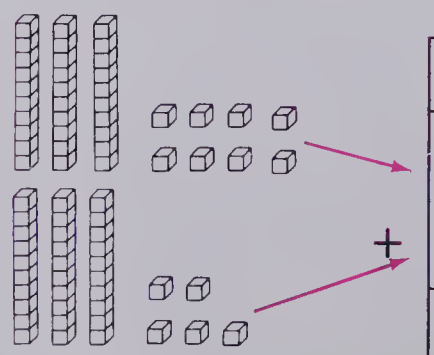
tens	ones
2	7
4	5
■	■

4.



tens	ones
1	5
3	6
■	■

5.



tens	ones
3	8
3	5
■	■

Bigger Numbers

Add these numbers. $47 + 25$

	tens	ones
	1	
	4	7
+	2	5
		2

First, add $7 + 5 = 12$

$12 = 1$ ten and 2 ones.

Move the 1 ten to the ten's place.

	tens	ones
	1	
	4	7
+	2	5
	7	2

Now, add the numbers in the ten's place.

First, add $4 + 2$ $4 + 2 = 6$.

Now add $6 + 1$ $6 + 1 = 7$.

Put the "7" in the ten's place.

$$\begin{array}{r} 47 \\ +25 \\ \hline 72 \end{array}$$

Copy and add.

1. $\begin{array}{r} 1 \\ 67 \\ +25 \\ \hline 92 \end{array}$	2. $\begin{array}{r} 48 \\ +33 \\ \hline \end{array}$	3. $\begin{array}{r} 32 \\ +29 \\ \hline \end{array}$	4. $\begin{array}{r} 34 \\ +48 \\ \hline \end{array}$	5. $\begin{array}{r} 56 \\ +36 \\ \hline \end{array}$	6. $\begin{array}{r} 48 \\ +34 \\ \hline \end{array}$
7. $\begin{array}{r} 19 \\ +36 \\ \hline \end{array}$	8. $\begin{array}{r} 48 \\ +47 \\ \hline \end{array}$	9. $\begin{array}{r} 28 \\ +63 \\ \hline \end{array}$	10. $\begin{array}{r} 69 \\ +23 \\ \hline \end{array}$	11. $\begin{array}{r} 16 \\ +79 \\ \hline \end{array}$	12. $\begin{array}{r} 39 \\ +32 \\ \hline \end{array}$
13. $\begin{array}{r} 55 \\ +\ 8 \\ \hline \end{array}$	14. $\begin{array}{r} 87 \\ +\ 6 \\ \hline \end{array}$	15. $\begin{array}{r} 68 \\ +25 \\ \hline \end{array}$	16. $\begin{array}{r} 25 \\ +43 \\ \hline \end{array}$	17. $\begin{array}{r} 13 \\ +75 \\ \hline \end{array}$	★18. $\begin{array}{r} 99 \\ +99 \\ \hline \end{array}$

Adding Hundreds

Add 147 + 225.

	hundreds	tens	ones
		1	
+	1	4	7
	2	2	5
			2

Add ones.

	hundreds	tens	ones
		1	
+	1	4	7
	2	2	5
		7	2

Add tens.

	hundreds	tens	ones
		1	
+	1	4	7
	2	2	5
	3	7	2

Add hundreds.

7 + 5 = 12 = 1 ten and 2 ones.

Put the extra ten in the ten's place.

$$\begin{array}{r} {\scriptstyle 1} \\ 147 \\ +225 \\ \hline 372 \end{array}$$

Copy and add.

1. $\begin{array}{r} {\scriptstyle 1} \\ 148 \\ +233 \\ \hline 381 \end{array}$

2. $\begin{array}{r} 332 \\ +429 \\ \hline \end{array}$

3. $\begin{array}{r} 434 \\ +148 \\ \hline \end{array}$

4. $\begin{array}{r} 656 \\ +236 \\ \hline \end{array}$

5. $\begin{array}{r} 148 \\ +534 \\ \hline \end{array}$

6. $\begin{array}{r} 228 \\ +263 \\ \hline \end{array}$

7. $\begin{array}{r} 642 \\ +347 \\ \hline \end{array}$

8. $\begin{array}{r} 419 \\ +436 \\ \hline \end{array}$

9. $\begin{array}{r} 716 \\ +179 \\ \hline \end{array}$

10. $\begin{array}{r} 239 \\ +332 \\ \hline \end{array}$

11. $\begin{array}{r} 445 \\ +\ 37 \\ \hline \end{array}$

12. $\begin{array}{r} 276 \\ +\ 13 \\ \hline \end{array}$

13. $\begin{array}{r} 25 \\ +358 \\ \hline \end{array}$

14. $\begin{array}{r} 409 \\ +262 \\ \hline \end{array}$

15. $\begin{array}{r} 515 \\ +365 \\ \hline \end{array}$

Post Office Clerk

1. Guy bought 36 stamps.
Maria bought 45 stamps.
How many stamps did they both buy?

2. Kim bought 63 stamps.
Garnet bought 28 stamps.
How many stamps did they both buy?

3. Nadine bought 57 stamps.
Michel bought 24 stamps.
How many stamps did they both buy?

4. Raj bought 254 stamps.
Trevor bought 126 stamps.
How many stamps did they both buy?

5. $\begin{array}{r} 47 \\ +\,14 \\ \hline \end{array}$

6. $\begin{array}{r} 8 \\ +\,84 \\ \hline \end{array}$

7. $\begin{array}{r} 17 \\ +\,75 \\ \hline \end{array}$

8. $\begin{array}{r} 35 \\ +\,57 \\ \hline \end{array}$

9. $\begin{array}{r} 29 \\ +\,24 \\ \hline \end{array}$

10. $\begin{array}{r} 508 \\ +\,403 \\ \hline \end{array}$

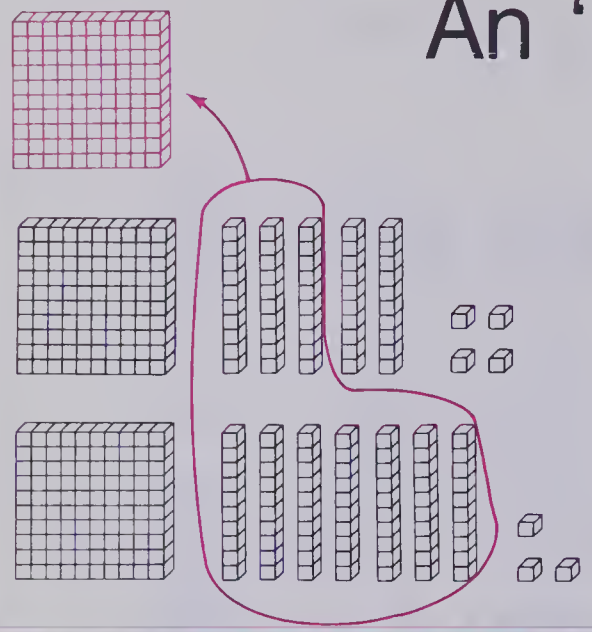
11. $\begin{array}{r} 206 \\ +\,344 \\ \hline \end{array}$

12. $\begin{array}{r} 604 \\ +\,106 \\ \hline \end{array}$

13. $\begin{array}{r} 238 \\ +\;\;6 \\ \hline \end{array}$

14. $\begin{array}{r} 7 \\ +\,343 \\ \hline \end{array}$

An "Extra Hundred"

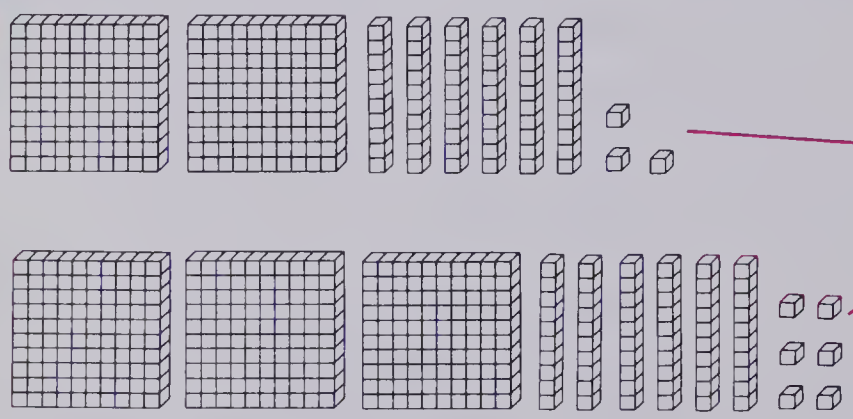


hundreds	tens	ones
1	5	4
+ 1	7	3
3	2	7

5 tens + 7 tens = 1 hundred 2 tens

Copy and complete. Watch for "extra hundreds".

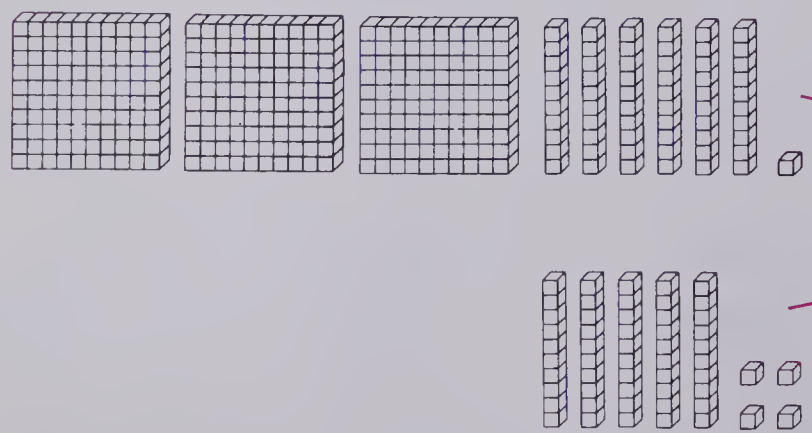
1.



hundreds	tens	ones
2	6	3
+ 3	6	6
■	■	■

6 tens + 6 tens = ■ hundred ■ tens

2.



hundreds	tens	ones
3	6	1
+	5	4
■	■	■

Practice

1. (a) 24 + 91	(b) 32 + 85	(c) 47 + 72	(d) 56 + 83	(e) 25 + 91
2. (a) 61 + 87	(b) 74 + 52	(c) 52 + 83	(d) 33 + 44	(e) 51 + 98
3. (a) 437 + 92	(b) 245 + 83	(c) 133 + 56	(d) 382 + 45	(e) 526 + 92
4. (a) 234 + 180	(b) 552 + 143	(c) 756 + 182	(d) 461 + 274	(e) 145 + 392
5. (a) 364 + 265	(b) 127 + 491	(c) 341 + 486	(d) 265 + 393	(e) 674 + 285

6. Yvonne has 482 stamps.
Leo has 474 stamps.
How many stamps do they both have?

7. Carlos has 261 stamps.
Pierre has 397 stamps.
How many stamps do they both have?

BRAINTICKLER

What is the number?

1. Double the number in the ten's place to get the number in the hundred's place.
2. The number in the hundred's place is 7 more than the number in the one's place.

Adding Hundreds

Add 527 + 385.

	hundreds	tens	ones
		1	
	5	2	7
+	3	8	5
			2

Add the numbers in the one's place.
7 + 5 = 12
12 = 1 ten and 2 ones.
Put the "2" in the one's place and move the 1 ten to the ten's place.

	hundreds	tens	ones
	1	1	
	5	2	7
+	3	8	5
		1	2

Now, add the numbers in the ten's place.
1 + 2 + 8 = 11
11 tens = 1 hundred and 1 ten.
Put the "1" in the ten's place and move the 1 hundred to the hundred's place.

	hundreds	tens	ones
	1	1	
	5	2	7
+	3	8	5
	9	1	2

Now, add the numbers in the hundred's place.
1 + 5 + 3 = 9
9 hundreds.
Put the "9" in the hundred's place.

This is what you did.

```
  1 1
  527
+ 385
-----
  912
```

Put any extra "tens" in the ten's place.
Put any extra "hundreds" in the hundred's place.

Copy and complete.

1. 345
+298

hundreds	tens	ones
1	1	
3	4	5
+ 2	9	8
■	■	■

2. 258
+476

hundreds	tens	ones
1	1	
2	5	8
+ 4	7	6
■	■	■

3. 1 1
124
+377
501

4. 356
+256

5. 489
+143

6. 784
+129

7. 281
+359

8. 568
+263

9. 134
+638

10. 136
+452

11. 289
+643

12. 549
+237

13. 363
+486

14. 379
+436

15. 274
+191

16. 468
+236

17. 634
+127

18. 562
+129

19. 117
+146

20. 235
+165

21. 348
+433

22. 776
+143

23. 467
+312

24. 669
+242

25. 181
+209

26. 425
+192

27. 641
+189

28. 432
+ 89

29. 374
+ 46

30. 87
+213

31. 492
+ 8

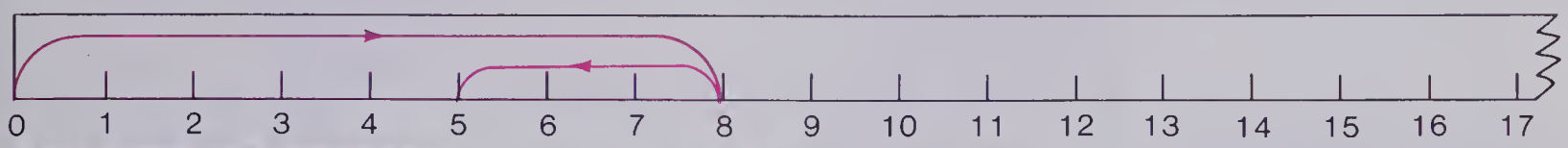
★ **32.** 999
+ 99

Addition Practice

1. (a) 46 +12	(b) 72 +24	(c) 35 +14	(d) 42 +30	(e) 26 +53	(f) 60 +17
2. (a) 134 +21	(b) 303 +24	(c) 268 +20	(d) 452 +45	(e) 237 +52	(f) 564 +30
3. (a) 336 +423	(b) 147 +342	(c) 514 +205	(d) 268 +421	(e) 194 +103	(f) 303 +425
4. (a) 264 +127	(b) 548 +204	(c) 426 +139	(d) 168 +218	(e) 453 +139	(f) 329 +244
5. (a) 458 +271	(b) 524 +182	(c) 143 +382	(d) 360 +154	(e) 294 +482	(f) 571 +187
6. (a) 136 + 79	(b) 458 +286	(c) 276 +156	(d) 369 +243	(e) 283 +468	(f) 572 +279
7. (a) 452 +168	(b) 396 +119	(c) 285 +486	(d) 436 +284	(e) 325 +499	(f) 457 +288

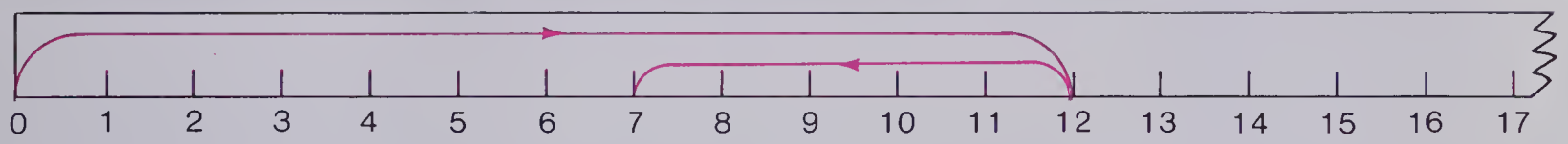
Subtracting on Your Ruler

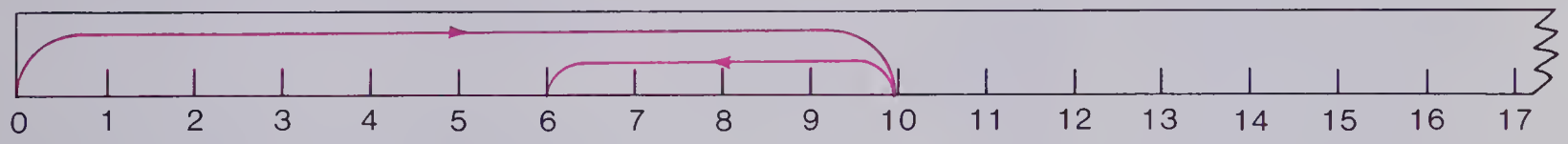
You can use a ruler to help you subtract.
Just follow the bouncing arrow.
It will bounce back when you take away.

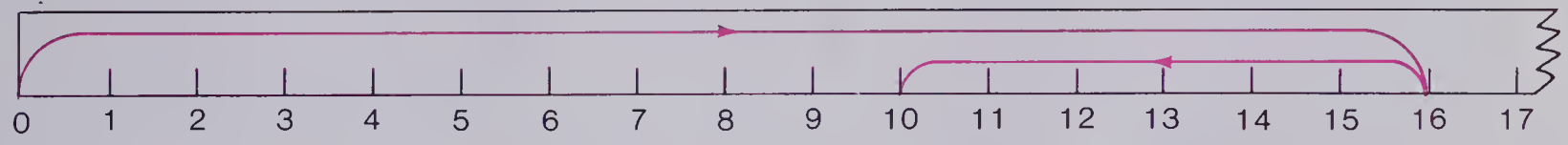


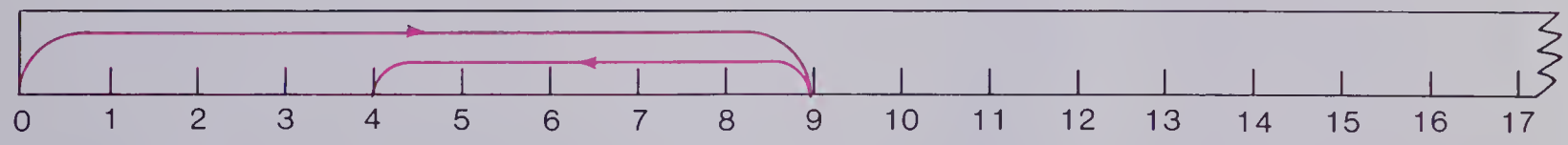
You jump "8" spaces. 8
Now you jump back "3" spaces. -3
The answer is "5". 8 - 3 = 5

Write the "number stories" for these.

1.


2.


3.


4.


Subtract.

5. 8 - 5 = ■	6. 9 - 6 = ■	7. 10 - 2 = ■	8. 7 - 4 = ■
9. 5 - 3 = ■	10. 10 - 6 = ■	11. 8 - 2 = ■	12. 4 - 3 = ■
13. 17 - 4 = ■	14. 15 - 4 = ■	15. 16 - 3 = ■	16. 15 - 2 = ■

Subtracting

First, there were 14 balloons.
Then, 2 balloons broke.

Now there are 12 balloons.

$$\begin{array}{r} 14 \\ -\ 2 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 1\ 4 \\ -\ \ 2 \\ \hline \ \ 2 \end{array}$$

First, subtract the numbers in the one's place.

$4 - 2 = 2$

Put the "2" under the line in the one's place.

$$\begin{array}{r} 1\ 4 \\ -\ \ 2 \\ \hline 1\ 2 \end{array}$$

Now subtract the numbers in the ten's place.
There is nothing to "take away" from 1.
Write the "1" under the line in the ten's place.

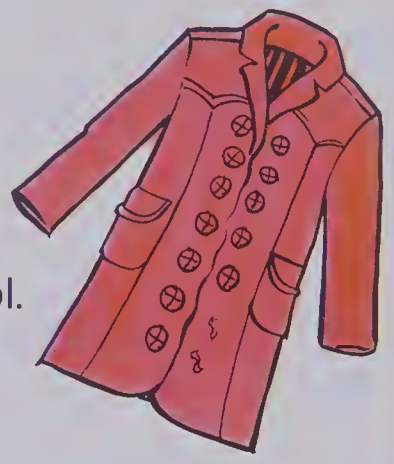
Subtract. Remember to keep the numbers in their places.
Use your ruler to check Questions 1 through 5.

1. $\begin{array}{r} 15 \\ -\ 3 \\ \hline 12 \end{array}$ **2.** $\begin{array}{r} 16 \\ -\ 3 \\ \hline \end{array}$ **3.** $\begin{array}{r} 19 \\ -\ 6 \\ \hline \end{array}$ **4.** $\begin{array}{r} 18 \\ -\ 4 \\ \hline \end{array}$ **5.** $\begin{array}{r} 16 \\ -\ 2 \\ \hline \end{array}$

6. $\begin{array}{r} 48 \\ -\ 5 \\ \hline \end{array}$ **7.** $\begin{array}{r} 67 \\ -\ 4 \\ \hline \end{array}$ **8.** $\begin{array}{r} 98 \\ -\ 2 \\ \hline \end{array}$ **9.** $\begin{array}{r} 47 \\ -\ 5 \\ \hline \end{array}$ **10.** $\begin{array}{r} 39 \\ -\ 4 \\ \hline \end{array}$

11. $\begin{array}{r} 26 \\ -\ 2 \\ \hline \end{array}$ **12.** $\begin{array}{r} 57 \\ -\ 3 \\ \hline \end{array}$ **13.** $\begin{array}{r} 39 \\ -\ 5 \\ \hline \end{array}$ **14.** $\begin{array}{r} 68 \\ -\ 3 \\ \hline \end{array}$ **15.** $\begin{array}{r} 45 \\ -\ 2 \\ \hline \end{array}$

Lost and Found Mysteries



1. Jane had 14 buttons on her coat.
   She lost 2 buttons.
   How many does she have now?

$$\begin{array}{r} 14 \\ -\ 2 \\ \hline \end{array}$$

2. There were 28 mittens lost at school.
   8 mittens were found.
   How many were not found?

3. There were 49 shoes in the "Lost" room.
   6 were claimed.
   How many are still in the "Lost" room?

4. 26 books were lost.
   4 books were found.
   How many books are still lost?

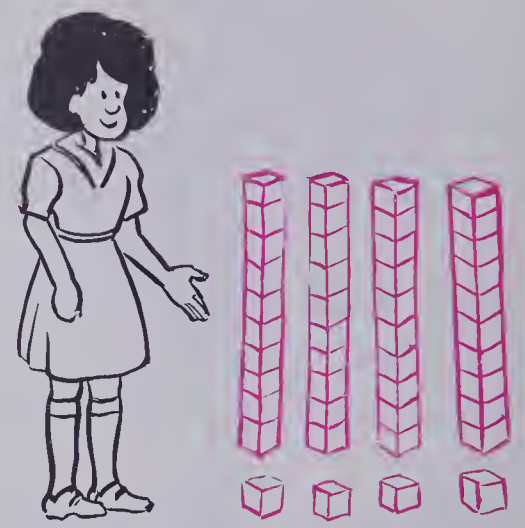
5. There were 27 bicycles lost.
   The police found 7.
   How many are still lost?

6. 44 pens were lost.
   4 pens were found.
   How many pens are still lost?

7. Mary had 46 marbles.
   She lost 5.
   How many does she have now?

Subtracting Large Numbers

Susan counted 44 centimetre cubes.
Kevin took away 12 red centimetre cubes.
How many are left?



	tens	ones
	4	4
-	1	2
		2

First look at the one's place.

$4 - 2 = 2$

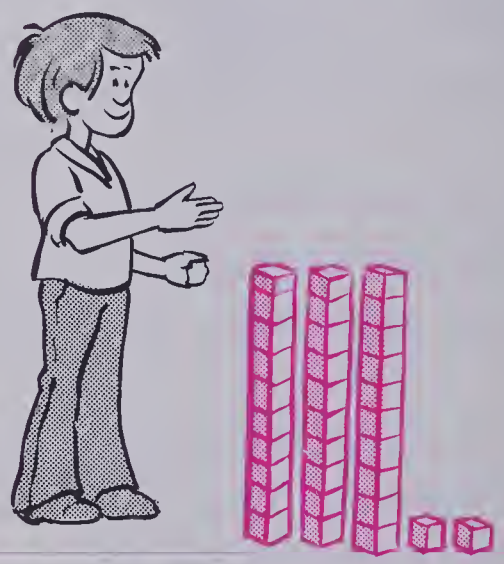
Put the "2" in the one's place.

	tens	ones
	4	4
-	1	2
	3	2

Now look at the ten's place.

$4 - 1 = 3$

Put the "3" in the ten's place.



So

$$\begin{array}{r} 44 \\ -12 \\ \hline 32 \end{array}$$

There were 32 left.

1. $\begin{array}{r} 56 \\ -21 \\ \hline 35 \end{array}$

2. $\begin{array}{r} 97 \\ -24 \\ \hline \end{array}$

3. $\begin{array}{r} 46 \\ -23 \\ \hline \end{array}$

4. $\begin{array}{r} 38 \\ -20 \\ \hline \end{array}$

5. $\begin{array}{r} 24 \\ -13 \\ \hline \end{array}$

6. $\begin{array}{r} 89 \\ -65 \\ \hline \end{array}$

7. $\begin{array}{r} 54 \\ -40 \\ \hline \end{array}$

8. $\begin{array}{r} 68 \\ -22 \\ \hline \end{array}$

9. $\begin{array}{r} 27 \\ -12 \\ \hline \end{array}$

10. $\begin{array}{r} 45 \\ -32 \\ \hline \end{array}$

The Metre

one metre

1 m

Use a metrestick.

1. Are you taller than one metre?

2. We write "m" as the symbol for "metre". Measure and record the lengths in metres of four things in your classroom.

3. Which is the better unit, the centimetre or metre, for measuring each?

   (a) length of your shoe
   (b) length of a pencil
   (c) length of the chalkboard
   (d) length of a car
   (e) length of the school
   (f) height of a dog

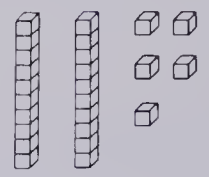
4. Mark measured his school.
   The gym was 36 m long.
   The hall was 26 m long.
   How long are the two together?

Johnny made these addition and subtraction questions when he measured in metres. Help him find the answers.

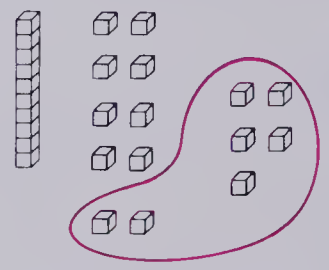
5. 35 +56	6. 123 +141	7. 128 + 34	8. 151 +263	9. 164 +178
10. 76 -32	11. 84 -21	12. 58 -16	13. 29 -14	14. 39 -18

Regrouping to Subtract

Subtract 25 - 7.
Sometimes you have to do something special before you can subtract.



Subtract 7 blocks.
First you must break 1 ten into 10 ones and then subtract.



	tens	ones
	1 2	15 5
-		7
		8

You have 5 ones.
Can you subtract 7 ones?
Regroup 1 ten → 10 ones.
10 ones + 5 ones = 15 ones.
15 - 7 = 8 ones.

	tens	ones
	1 2	15 5
-		7
	1	8

So, 25 - 7 = 18.

This is what you did.

$$\begin{array}{r} {\scriptstyle 1\ 15} \\ 2\not{5} \\ -\ 7 \\ \hline 18 \end{array}$$

If you do not have enough ones to subtract, regroup and move 1 ten to the one's place.

Practice

1. $\begin{array}{r} 35 \\ -\ 8 \\ \hline \blacksquare \end{array}$

3 tens and 5 ones →
0 tens and 8 ones →
Subtract: →
Put answer here.

tens	ones
2	15
~~3~~	~~5~~
0	8
■	■

2. $\begin{array}{r} 34 \\ -\ 6 \\ \hline \end{array}$ **3.** $\begin{array}{r} 42 \\ -\ 7 \\ \hline \end{array}$ **4.** $\begin{array}{r} 65 \\ -\ 8 \\ \hline \end{array}$ **5.** $\begin{array}{r} 21 \\ -\ 3 \\ \hline \end{array}$ **6.** $\begin{array}{r} 46 \\ -\ 9 \\ \hline \end{array}$

7. $\begin{array}{r} 23 \\ -\ 7 \\ \hline \end{array}$ **8.** $\begin{array}{r} 34 \\ -\ 8 \\ \hline \end{array}$ **9.** $\begin{array}{r} 57 \\ -\ 9 \\ \hline \end{array}$ **10.** $\begin{array}{r} 10 \\ -\ 4 \\ \hline \end{array}$ **11.** $\begin{array}{r} 80 \\ -\ 6 \\ \hline \end{array}$

12. $\begin{array}{r} 64 \\ -\ 6 \\ \hline \end{array}$ **13.** $\begin{array}{r} 84 \\ -\ 7 \\ \hline \end{array}$ **14.** $\begin{array}{r} 41 \\ -\ 5 \\ \hline \end{array}$ **15.** $\begin{array}{r} 64 \\ -\ 2 \\ \hline \end{array}$ **16.** $\begin{array}{r} 36 \\ -\ 9 \\ \hline \end{array}$

17. $\begin{array}{r} 54 \\ -\ 8 \\ \hline \end{array}$ **18.** $\begin{array}{r} 16 \\ -\ 5 \\ \hline \end{array}$ **19.** $\begin{array}{r} 46 \\ -\ 8 \\ \hline \end{array}$ **20.** $\begin{array}{r} 56 \\ -\ 9 \\ \hline \end{array}$ **21.** $\begin{array}{r} 43 \\ -\ 6 \\ \hline \end{array}$

22. Raj has 43 stamps.
He pasted 9 into his stamp book.
How many more does he have to put in his book?

23. Jan has 21 cards.
She gave 6 to Henri.
How many does she have left?

More Regrouping

Subtract 53 - 17.

	tens	ones
	4 5	13 3
-	1	7
	■	6

You have 3 ones.
Can you subtract 7 ones?
Regroup 1 ten ⟶ 10 ones.
10 ones + 3 ones = 13 ones.
13 - 7 = 6 ones.

	tens	ones
	4 5	13 3
-	1	7
	3	6

Now subtract in the ten's place.
4 - 1 = 3.
So 53 - 17 = 36.

If you do not have enough ones to subtract, regroup and move a ten to the one's place.

1. Copy and complete.

$$\begin{array}{r} 54 \\ -\,36 \\ \hline \blacksquare \end{array}$$

5 tens + ■ ones ⟶
■ tens + ■ ones ⟶
Subtract: ⟶

tens	ones
4 5	14 ■
■	■
■	■

2. Tell how you would get these answers.

(a) $\begin{array}{r} {\scriptstyle 5\ 11} \\ \not{6}\not{1} \\ -\,45 \\ \hline 16 \end{array}$ (b) $\begin{array}{r} {\scriptstyle 3\ 12} \\ \not{4}\not{2} \\ -\,27 \\ \hline 15 \end{array}$ (c) $\begin{array}{r} {\scriptstyle 7\ 13} \\ \not{8}\not{3} \\ -\,36 \\ \hline 47 \end{array}$ (d) $\begin{array}{r} \blacksquare\blacksquare \\ 64 \\ -\,37 \\ \hline 27 \end{array}$

3. (a) $\begin{array}{r} 48 \\ -19 \\ \hline \end{array}$ $\begin{array}{r} {}^{3}\cancel{4}{}^{18}\cancel{8} \\ -19 \\ \hline 29 \end{array}$ (b) $\begin{array}{r} 63 \\ -24 \\ \hline \end{array}$ (c) $\begin{array}{r} 95 \\ -37 \\ \hline \end{array}$ (d) $\begin{array}{r} 74 \\ -55 \\ \hline \end{array}$ (e) $\begin{array}{r} 87 \\ -29 \\ \hline \end{array}$

(f) $\begin{array}{r} 32 \\ -13 \\ \hline \end{array}$ (g) $\begin{array}{r} 55 \\ -23 \\ \hline \end{array}$ (h) $\begin{array}{r} 94 \\ -48 \\ \hline \end{array}$ (i) $\begin{array}{r} 34 \\ -18 \\ \hline \end{array}$ (j) $\begin{array}{r} 87 \\ -49 \\ \hline \end{array}$

4. (a) $\begin{array}{r} 61 \\ -27 \\ \hline \end{array}$ (b) $\begin{array}{r} 74 \\ -46 \\ \hline \end{array}$ (c) $\begin{array}{r} 51 \\ -34 \\ \hline \end{array}$ (d) $\begin{array}{r} 92 \\ -63 \\ \hline \end{array}$ (e) $\begin{array}{r} 76 \\ -43 \\ \hline \end{array}$

(f) $\begin{array}{r} 62 \\ -35 \\ \hline \end{array}$ (g) $\begin{array}{r} 95 \\ -48 \\ \hline \end{array}$ (h) $\begin{array}{r} 74 \\ -29 \\ \hline \end{array}$ (i) $\begin{array}{r} 82 \\ -37 \\ \hline \end{array}$ (j) $\begin{array}{r} 44 \\ -27 \\ \hline \end{array}$

5. (a) $\begin{array}{r} 87 \\ -36 \\ \hline \end{array}$ (b) $\begin{array}{r} 66 \\ -33 \\ \hline \end{array}$ (c) $\begin{array}{r} 99 \\ -29 \\ \hline \end{array}$ (d) $\begin{array}{r} 82 \\ -68 \\ \hline \end{array}$ (e) $\begin{array}{r} 71 \\ -35 \\ \hline \end{array}$

(f) $\begin{array}{r} 54 \\ -27 \\ \hline \end{array}$ (g) $\begin{array}{r} 72 \\ -32 \\ \hline \end{array}$ (h) $\begin{array}{r} 36 \\ -17 \\ \hline \end{array}$ (i) $\begin{array}{r} 41 \\ -28 \\ \hline \end{array}$ (j) $\begin{array}{r} 53 \\ -37 \\ \hline \end{array}$

6. (a) $\begin{array}{r} 34 \\ -18 \\ \hline \end{array}$ (b) $\begin{array}{r} 47 \\ -29 \\ \hline \end{array}$ (c) $\begin{array}{r} 82 \\ -46 \\ \hline \end{array}$ (d) $\begin{array}{r} 63 \\ -35 \\ \hline \end{array}$ (e) $\begin{array}{r} 85 \\ -65 \\ \hline \end{array}$

(f) $\begin{array}{r} 58 \\ -28 \\ \hline \end{array}$ (g) $\begin{array}{r} 35 \\ -19 \\ \hline \end{array}$ (h) $\begin{array}{r} 62 \\ -40 \\ \hline \end{array}$ (i) $\begin{array}{r} 41 \\ -15 \\ \hline \end{array}$ (j) $\begin{array}{r} 94 \\ -56 \\ \hline \end{array}$

Baker

48 cupcakes in the window.
56 cookies in the window.
How many altogether?

$$\begin{array}{r} 48 \\ +\,56 \\ \hline \blacksquare \end{array}$$

Write the number story.
Solve the mysteries.

1. 18 cakes.
   27 pies appeared.
   How many now?

2. 14 berry pies.
   13 cream pies appeared.
   How many now?

3. 18 cakes altogether.
   9 cakes disappeared.
   How many cakes now?

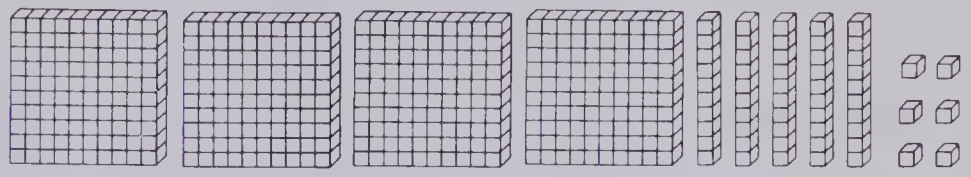
4. 56 chocolate chip cookies.
   18 cookies disappeared.
   How many now?

5. 36 nut squares.
   19 plain squares appeared.
   How many now?

6. 25 buns.
   17 buns disappeared.
   How many buns now?

Subtracting in the Hundreds

Subtract 456 - 124.



	hundreds	tens	ones
	4	5	6
-	1	2	4
			2

First, subtract in the one's place.
6 - 4 = 2.

	hundreds	tens	ones
	4	5	6
-	1	2	4
		3	2

Next, subtract in the ten's place.
5 - 2 = 3.

	hundreds	tens	ones
	4	5	6
-	1	2	4
	3	3	2

Now, subtract in the hundred's place.
4 - 1 = 3.

This is what you did.

```
 456
-124
----
 332
```

Practice

1. Copy and complete.

(a) 468 − 237

hundreds	tens	ones
4	6	8
2	3	7
■	■	■

(b) 687 − 356

hundreds	tens	ones
■	■	■
■	■	■
■	■	■

2.

(a)	(b)	(c)	(d)	(e)
467 − 115 = 352	846 − 212 =	428 − 217 =	277 − 124 =	626 − 114 =
(f)	(g)	(h)	(i)	(j)
947 − 234 =	368 − 124 =	687 − 325 =	845 − 613 =	247 − 123 =

3.

(a)	(b)	(c)	(d)	(e)
649 − 143 =	478 − 235 =	628 − 413 =	557 − 132 =	948 − 315 =
(f)	(g)	(h)	(i)	(j)
402 − 101 =	720 − 510 =	564 − 532 =	653 − 412 =	849 − 237 =

4.

(a)	(b)	(c)	(d)	(e)
968 − 635 =	464 − 262 =	837 − 421 =	536 − 315 =	351 − 211 =
(f)	(g)	(h)	(i)	(j)
643 − 320 =	486 − 243 =	727 − 427 =	463 − 231 =	745 − 531 =

Regrouping Hundreds

Subtract 425 - 153.

h	t	o
4	2	5
1	5	3

h	t	o
3	12	
~~4~~	~~2~~	5
1	5	3
2	7	2

You have 2 tens. Can you subtract 5 tens?
No! You need more tens.
So, regroup 1 hundred as 10 tens.
Now you have 12 tens.
Can you subtract 5 tens?

Copy and complete.

1. 316 — 3 hundreds 1 ten 6 ones
   -143 — 1 hundred 4 tens 3 ones

   ■■■

2. 528 — ■ hundreds ■ tens ■ ones
   -264 — ■ hundreds ■ tens ■ ones

   ■■■

3. 843 — ■ hundreds ■ tens ■ ones
   -372 — ■ hundreds ■ tens ■ ones

   ■■■

4. 935 — ■ hundreds ■ tens ■ ones
   -562 — ■ hundreds ■ tens ■ ones

   ■■■

Subtract:

h	t	o
2	11	
~~3~~	~~1~~	6
1	4	3

h	t	o

h	t	o

h	t	o

Practice

Subtract.

1. (a) 528 − 2	(b) 375 − 4	(c) 286 − 2	(d) 368 − 3	(e) 258 − 7
2. (a) 387 − 54	(b) 679 − 26	(c) 229 − 19	(d) 547 − 23	(e) 867 − 34
3. (a) 459 − 26	(b) 288 − 45	(c) 896 − 60	(d) 737 − 14	(e) 659 − 24
4. (a) 458 −123	(b) 765 −443	(c) 653 −312	(d) 568 −235	(e) 479 −324

Watch these!

5. (a) 442 − 25	(b) 651 − 32	(c) 284 − 46	(d) 162 − 33	(e) 541 − 26
6. (a) 957 − 63	(b) 425 − 42	(c) 638 − 55	(d) 237 − 42	(e) 549 − 64
7. (a) 923 −241	(b) 345 −172	(c) 566 −384	(d) 928 −453	(e) 437 −255

How Tall Is Tall?

1. Use a height chart to find your height in centimetres.

2. How tall is the tallest person in your class?
   How tall is your teacher?

3. The tallest man was 272 cm.
   The tallest woman was 241 cm.
   How much taller was the man?

4. The shortest man was 67 cm.
   The shortest woman was 59 cm.
   How much taller was the man?

5. The tallest people are the Tutsi of Africa.
   A Tutsi is about 185 cm tall.
   A Canadian is about 170 cm.
   How much taller is the Tutsi?

6. The shortest pygmies are the Mbuti in Africa.
   A pygmy man is about 132 cm.
   A woman is about 124 cm.
   How much taller is the man?

★7. The most famous midget was Tom Thumb.
   He was 102 cm.
   How much taller than the shortest man was he?

Regrouping to Subtract

Subtract 947 - 358.

h	t	o
9	4	7
3	5	8

h	t	o
	3	17
9	4	7
3	5	8
		9

h	t	o
8	13	17
9	4	7
3	5	8
5	8	9

Copy and complete.

1. 462 − 174 = ■

4 hundreds ■ tens ■ ones

1 hundred ■ tens ■ ones

Put answer here. ← Subtract:

h	t	o
3	15	12
4	6	2
■	■	■
■	■	■

2. 523 − 259 = ■

■ hundreds ■ tens ■ ones

■ hundreds ■ tens ■ ones

Subtract:

■	■	■
■	■	■
■	■	■

3. 843 − 285 = ■

■ hundreds ■ tens ■ ones

■ hundreds ■ tens ■ ones

Subtract:

■	■	■
■	■	■
■	■	■

4. 432 − 174 = ■

■ hundreds ■ tens ■ ones

■ hundreds ■ tens ■ ones

Subtract:

■	■	■
■	■	■
■	■	■

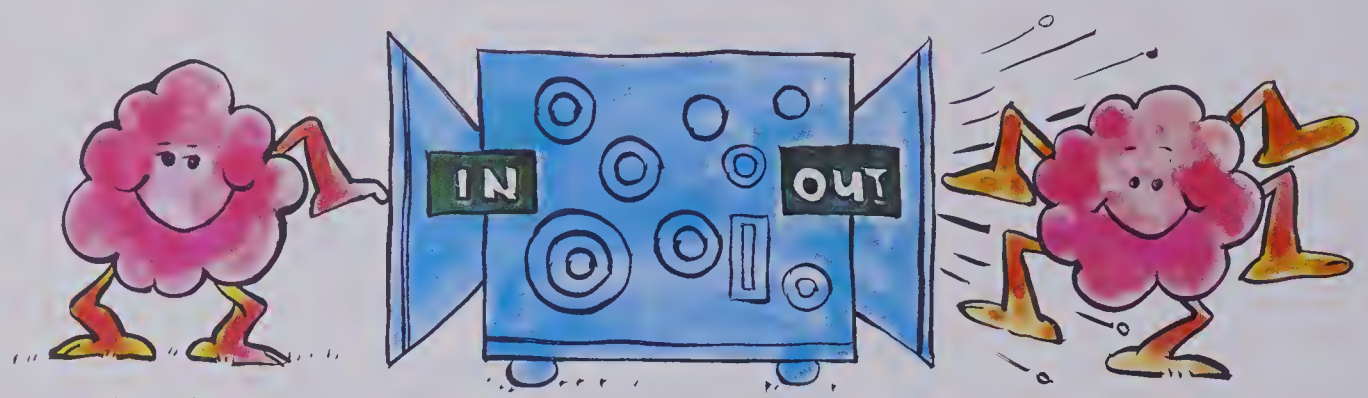
Practice

Copy and subtract.

1.	(a) $\begin{array}{r} 7\cancel{5}\cancel{4} \\ -426 \\ \hline 328 \end{array}$ (4 14)	(b) $\begin{array}{r} 976 \\ -257 \\ \hline \end{array}$	(c) $\begin{array}{r} 628 \\ -319 \\ \hline \end{array}$	(d) $\begin{array}{r} 881 \\ -546 \\ \hline \end{array}$	(e) $\begin{array}{r} 498 \\ -279 \\ \hline \end{array}$
2.	(a) $\begin{array}{r} 836 \\ -374 \\ \hline \end{array}$	(b) $\begin{array}{r} 578 \\ -387 \\ \hline \end{array}$	(c) $\begin{array}{r} 728 \\ -154 \\ \hline \end{array}$	(d) $\begin{array}{r} 369 \\ -189 \\ \hline \end{array}$	(e) $\begin{array}{r} 749 \\ -281 \\ \hline \end{array}$
3.	(a) $\begin{array}{r} 625 \\ -236 \\ \hline \end{array}$	(b) $\begin{array}{r} 421 \\ -176 \\ \hline \end{array}$	(c) $\begin{array}{r} 738 \\ -269 \\ \hline \end{array}$	(d) $\begin{array}{r} 421 \\ -377 \\ \hline \end{array}$	(e) $\begin{array}{r} 645 \\ -487 \\ \hline \end{array}$
4.	(a) $\begin{array}{r} 953 \\ -827 \\ \hline \end{array}$	(b) $\begin{array}{r} 521 \\ -499 \\ \hline \end{array}$	(c) $\begin{array}{r} 394 \\ -188 \\ \hline \end{array}$	(d) $\begin{array}{r} 823 \\ -197 \\ \hline \end{array}$	(e) $\begin{array}{r} 254 \\ -226 \\ \hline \end{array}$
5.	(a) $\begin{array}{r} 643 \\ -147 \\ \hline \end{array}$	(b) $\begin{array}{r} 274 \\ -192 \\ \hline \end{array}$	(c) $\begin{array}{r} 823 \\ -397 \\ \hline \end{array}$	(d) $\begin{array}{r} 452 \\ -176 \\ \hline \end{array}$	(e) $\begin{array}{r} 746 \\ -558 \\ \hline \end{array}$
6.	(a) $\begin{array}{r} 932 \\ -653 \\ \hline \end{array}$	(b) $\begin{array}{r} 645 \\ -218 \\ \hline \end{array}$	(c) $\begin{array}{r} 321 \\ -246 \\ \hline \end{array}$	(d) $\begin{array}{r} 486 \\ -268 \\ \hline \end{array}$	(e) $\begin{array}{r} 264 \\ -137 \\ \hline \end{array}$
7.	(a) $\begin{array}{r} 352 \\ -165 \\ \hline \end{array}$	(b) $\begin{array}{r} 493 \\ -276 \\ \hline \end{array}$	(c) $\begin{array}{r} 647 \\ -468 \\ \hline \end{array}$	(d) $\begin{array}{r} 421 \\ -327 \\ \hline \end{array}$	(e) $\begin{array}{r} 847 \\ -619 \\ \hline \end{array}$

The Mystery Machine

This is a mystery machine.
Strange things happen inside.



threeble

fiveble

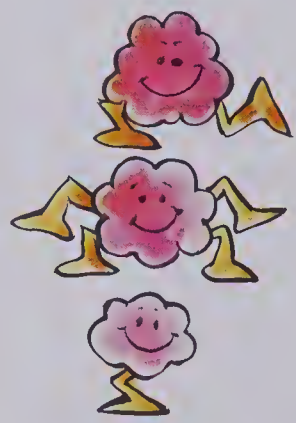
What happened inside the machine?

What would come out if:

1. A "twoble" went in?

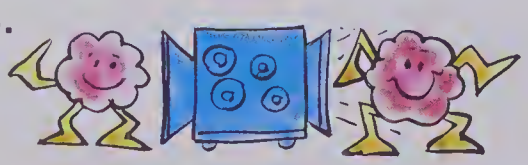
2. A "fourble" went in?

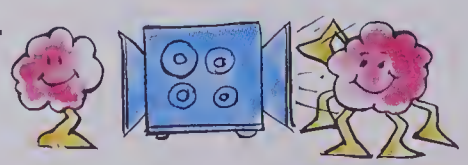
3. A "oneble" went in?

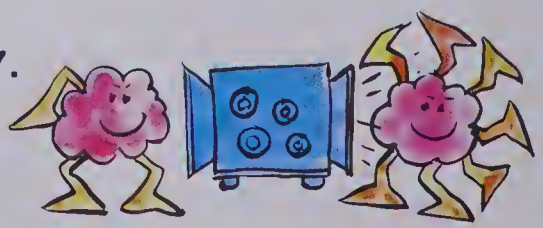


4. Now change what happens inside the machine so that it is an "add 9" machine. What comes out now?

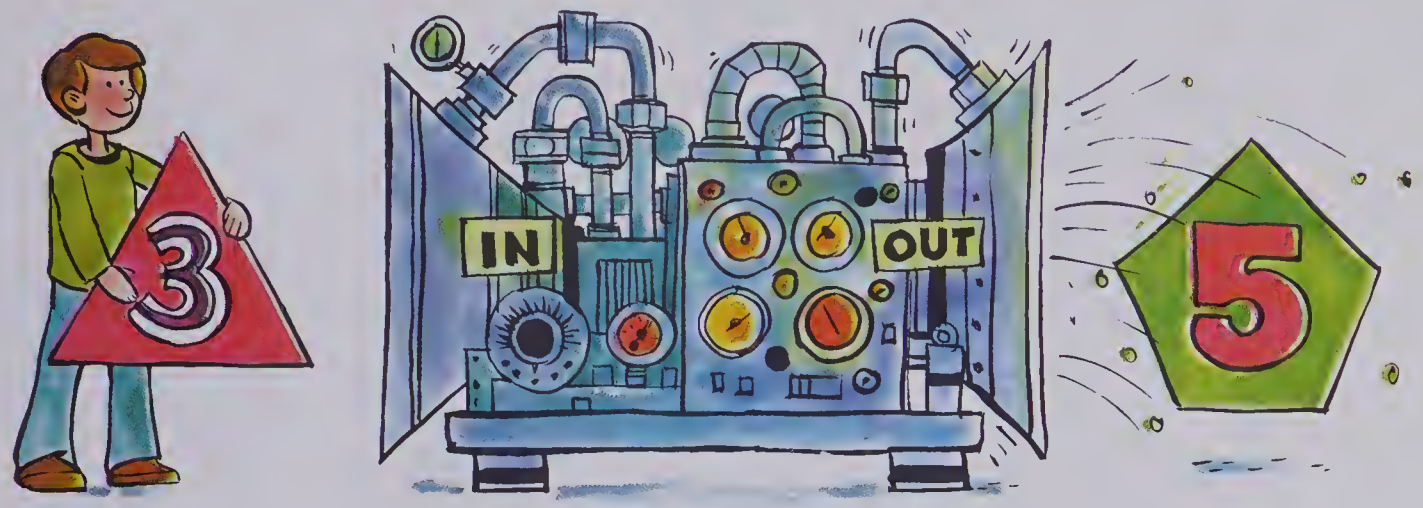
Tell what happens.

5. 

6. 

7. 

The Mystery Machine Changes Numbers



What number went into the machine?
What number came out of the machine?
What happened to the "3" inside the machine?

What happens inside these machines?

1.	2	?	4	(+ 2)	2.	4	?	6	3.	9	?	10
4.	6	?	10		5.	10	?	15	6.	8	?	11
7.	3	?	9		8.	7	?	12	9.	2	?	6

What happens inside these machines?

10.	8	?	6	(−2)	11.	4	?	3	12.	9	?	4
13.	10	?	9		14.	6	?	3	15.	8	?	5
16.	5	?	3		17.	7	?	2	18.	9	?	6

Zeros in Subtraction

Subtract.

80
-16

You have 0 ones.
You can't subtract 6 ones.
So you regroup 1 ten as 10 ones.

	t	o
	7	10
	~~8~~	~~0~~
-	1	6
	6	4

304
- 22

You have 0 tens.
You can't subtract 2 tens.
So you must regroup 1 hundred as 10 tens.

	h	t	o
	2	10	
	~~3~~	~~0~~	4
-		2	2
	2	8	2

Copy and complete. Watch for "zeros"!

2 10 1. ~~30~~ - 9	2. 20 - 5	3. 50 - 4	4. 80 -43	5. 60 -24	6. 90 -37
21 7. 60 -47	8. 80 -34	9. 70 -28	10. 40 -19	11. 90 -53	12. 50 -26
3 10 13. ~~40~~5 - 43	14. 607 - 25	15. 804 - 42	16. 506 - 34	17. 302 - 71	18. 907 - 54
19. 808 -145	20. 709 -236	21. 905 -432	22. 303 -141	23. 508 -226	24. 806 -353

Zeros in Subtraction

Subtract.

	h	t	o
	6	10	
	7	0	3
−	3	4	6

1. You have 3 ones.
2. You can't subtract 6 ones.
3. You can't regroup 0 tens.
4. Regroup 1 hundred first to get 10 ones.

	h	t	o
		9	
	6	10	13
	7	0	3
−	3	4	6
	3	5	7

5. Now regroup 1 ten as 10 ones.
   We have 13 ones now.
6. Now subtract the ones.
7. Now subtract the tens.
8. Now subtract the hundreds.

9 5 10 14 1. 6 0 4 −265 339	2. 802 −454	3. 503 −236	4. 706 −447	5. 401 −235
6. 806 −448	7. 403 −136	8. 602 −253	9. 501 −122	10. 304 −156
11. 902 −524	12. 507 −248	13. 406 −139	14. 803 −314	15. 705 −258
16. 408 −149	17. 605 −268	18. 805 −526	19. 504 −287	20. 804 −379

Practice

Add.

1. 1 2 +9	**2.** 2 3 +5	**3.** 1 4 +4	**4.** 2 1 +3	**5.** 2 1 +6
6. 46 +23	**7.** 81 +17	**8.** 32 +40	**9.** 54 +45	**10.** 26 +52
11. 24 + 49	**12.** 46 +57	**13.** 378 + 24	**14.** 507 + 57	**15.** 352 + 39
16. 337 +260	**17.** 694 +107	**18.** 504 +308	**19.** 369 +453	**20.** 291 +439

Subtract.

21. 43 -21	**22.** 68 -42	**23.** 49 -20	**24.** 73 -24	**25.** 32 -14
26. 274 - 27	**27.** 463 - 45	**28.** 564 - 29	**29.** 740 -326	**30.** 604 -253
31. 972 -396	**32.** 657 -168	**33.** 498 -209	**34.** 897 -488	**35.** 304 -287

Write the number sentences and find the answers.

1. There were 18 hanging baskets.
   A man bought 12 of them.
   How many are left?

2. A lady bought 26 cactus plants.
   She also bought 12 flowering plants.
   How many plants did she buy altogether?

3. The florist bought 365 plants.
   He sold 137 plants.
   How many does he have left?

4. There are 252 green plants.
   There are 178 dried plants.
   How many more green plants are there?

5. The florist planted 189 flowers.
   He still has 36 to plant.
   How many flowers will he plant altogether?

Chapter Test

Add.

1. 92 + 4	**2.** 73 + 6	**3.** 54 +42	**4.** 86 +13	**5.** 121 + 43	**6.** 420 + 38
7. 234 +122	**8.** 365 +403	**9.** 635 +116	**10.** 462 +279	**11.** 148 +376	**12.** 324 +386

Subtract.

13. 25 - 3	**14.** 49 - 6	**15.** 57 -24	**16.** 68 -35	**17.** 147 - 23	**18.** 489 - 45
19. 857 -103	**20.** 678 -249	**21.** 241 -135	**22.** 532 -227	**23.** 214 -123	**24.** 875 -291
25. 546 -358	**26.** 453 -266	**27.** 320 -142	**28.** 514 -135	**29.** 707 -468	**30.** 900 -437

31. Dina has 56 stamps.
Terry has 58 stamps.
How many stamps do they have altogether?

32. Ajay has 342 stamps.
Nadine has 157 stamps.
How many more stamps does Ajay have?

Cumulative Review

Add.

1. 1 4 + 4	**2.** 1 2 + 3	**3.** 2 2 + 3	**4.** 3 2 + 4	**5.** 1 9 + 5	**6.** 3 8 + 4
7. 49 + 24	**8.** 349 + 32	**9.** 635 + 206	**10.** 362 + 429	**11.** 374 + 589	**12.** 646 + 298

Subtract.

13. 95 - 41	**14.** 176 - 32	**15.** 987 - 542	**16.** 843 - 426	**17.** 525 - 146	**18.** 602 - 468

19. How many hundreds?
457

20. How many tens?
207

21. Which is greater?
56 or 74 581 or 591 249 or 942

22. Write the numeral.
(a) fifty-six
(b) forty-one
(c) 2 hundreds 0 tens 7 ones

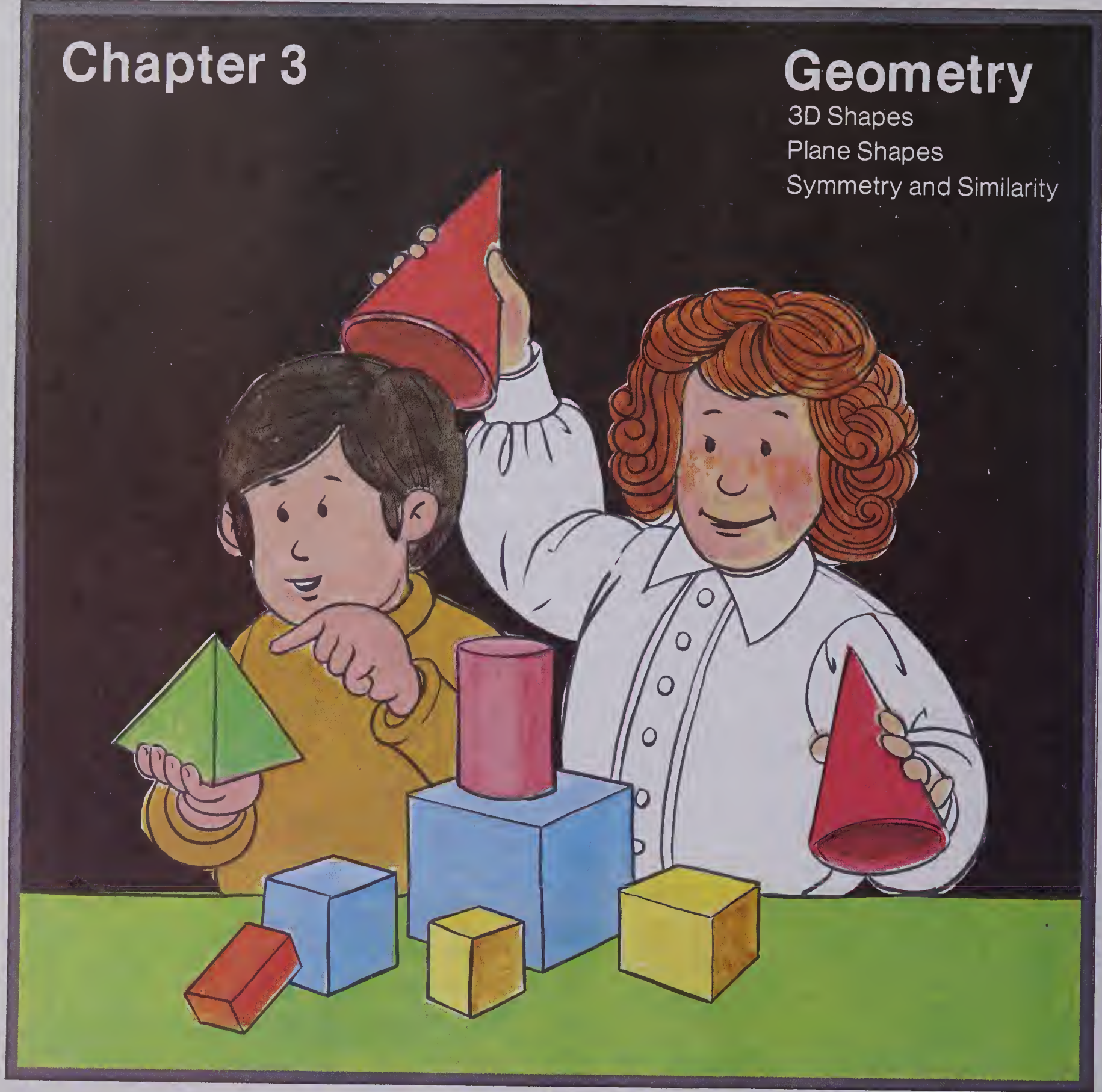
23. Raj has 43 stamps.
Angelo has 37 stamps.
How many stamps do they have altogether?

24. José has 280 stamps.
Fernando has 142 stamps.
How many more stamps does José have?

Chapter 3

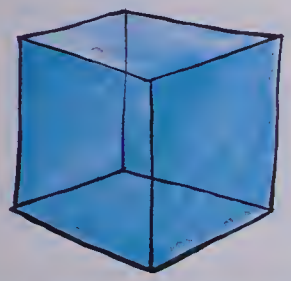
Geometry

3D Shapes
Plane Shapes
Symmetry and Similarity

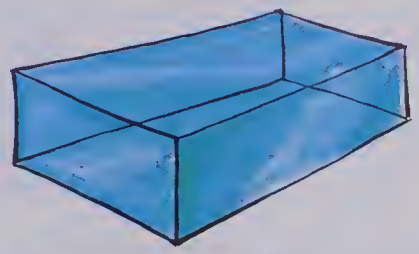


Shapes

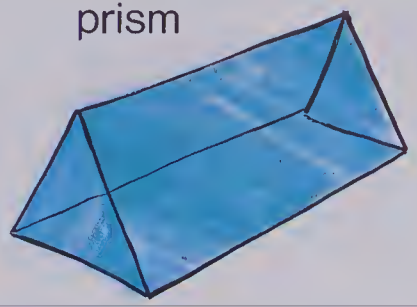
cube



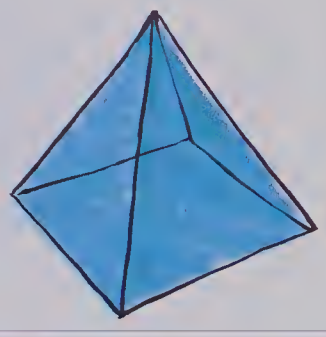
rectangular prism



triangular prism



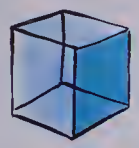
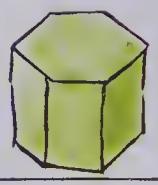
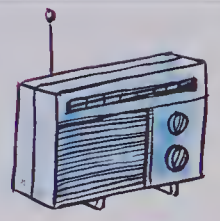
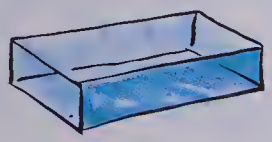
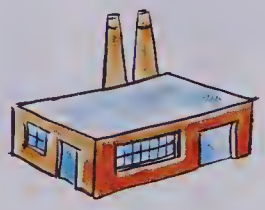
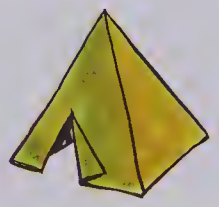
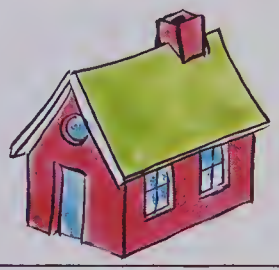
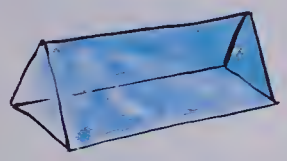
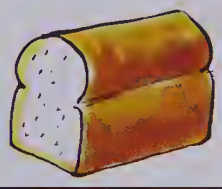
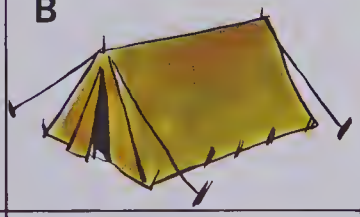
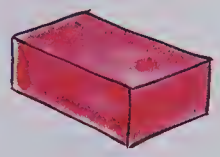
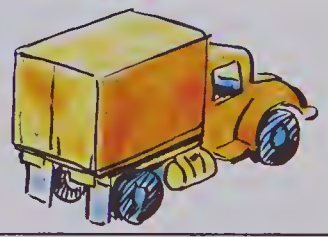
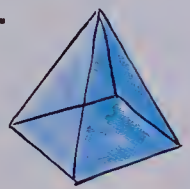
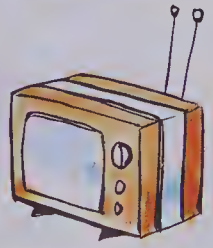
pyramid



Make a collection of these shapes.

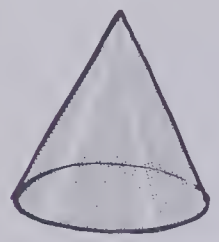
Copy the names of the shapes.
Place the correct letter beside each name.

1. cube → B

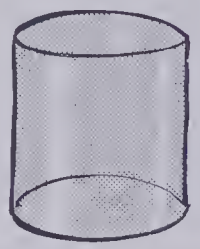
1. 	A	B	C 	D 
2. 	A 	B	C 	D 
3. 	A 	B 	C 	D 
4. 	A	B 	C	D

Curved Shapes

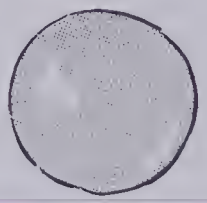
cone



cylinder

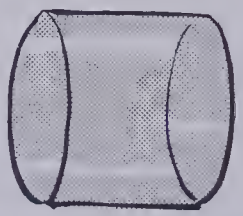


ball (sphere)



cone

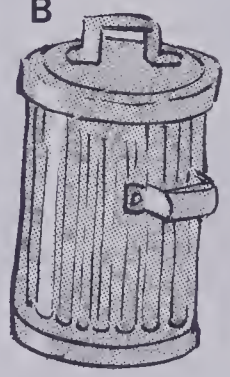
cylinder

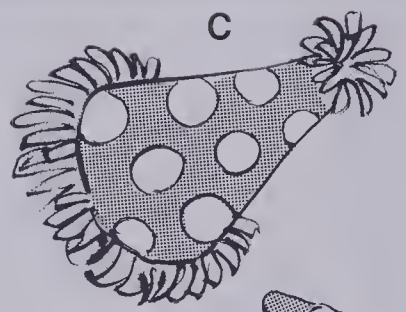


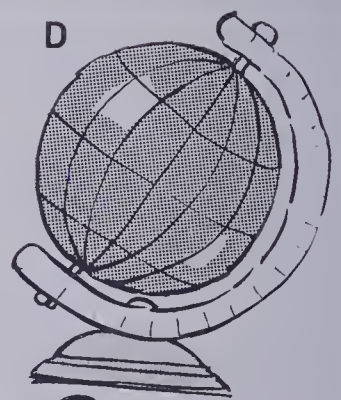
ball (sphere)

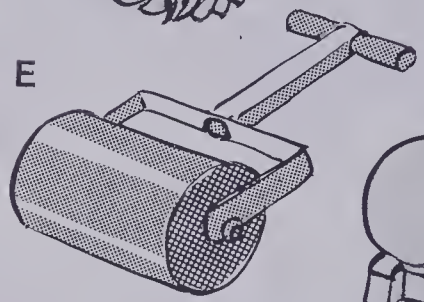
1. Copy this chart. Find these shapes.

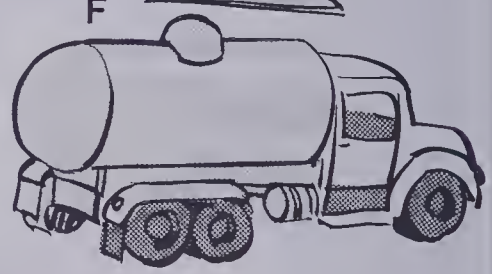
Cone	
Cylinder	E
Ball (sphere)	





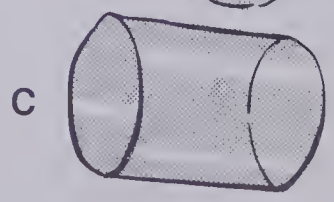


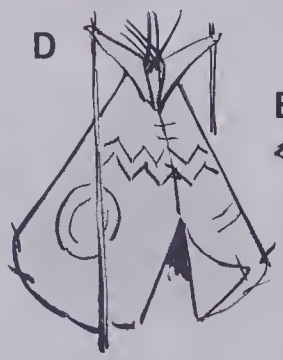


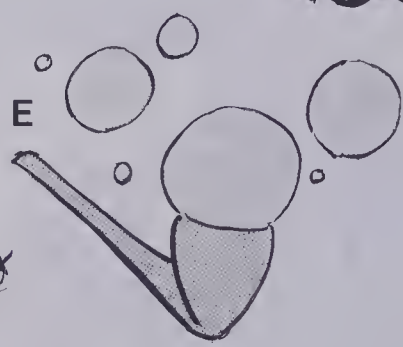


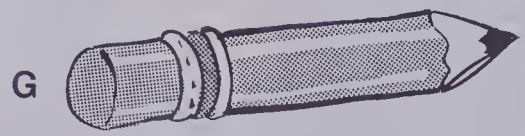
2. Copy this chart. Find these shapes.

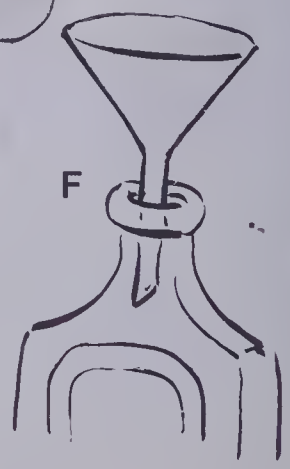
Cone	A
Cylinder	
Ball (sphere)	







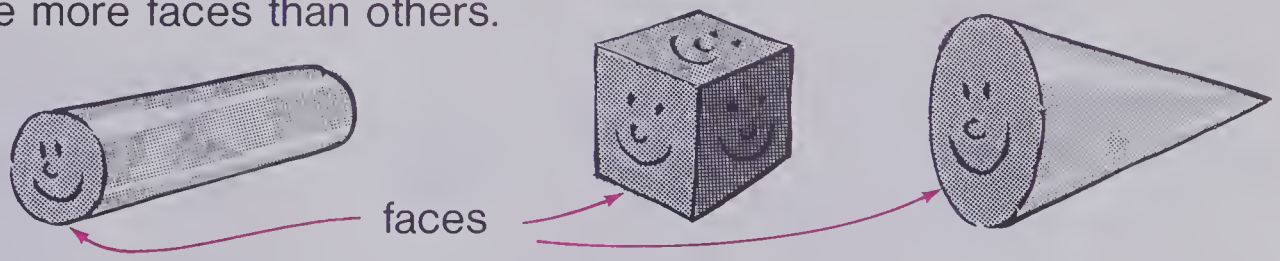




3. Name things that look like cylinders, cones, and balls.

Tracing Shapes

Some shapes have more faces than others.
A face is flat.

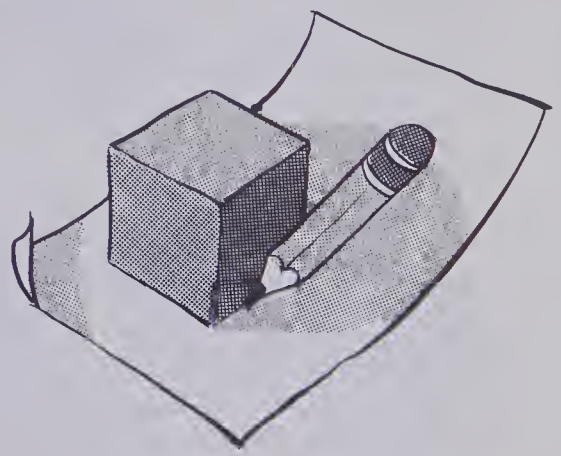


1. Use chalk. Draw "faces" on your models.

2. Count the number of flat faces on each model.

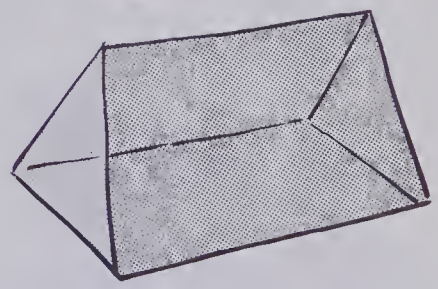
3. Place a cube on your page.
   Trace around it.

   Trace another face.
   Can you get a different shape?



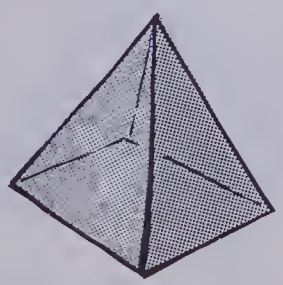
4. Place a triangular prism on your page.
   Trace.

   Trace all the faces.
   How many different shapes did you trace?

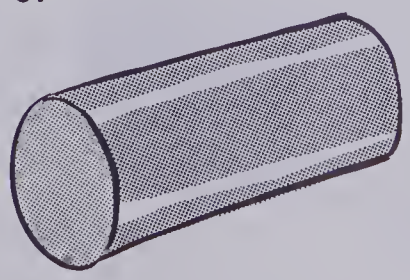


Trace the faces of each model.
How many different shapes can you get?

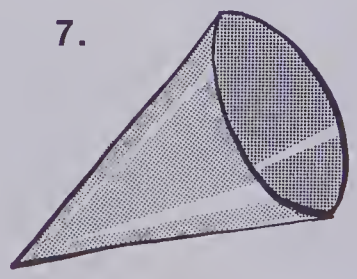
5.



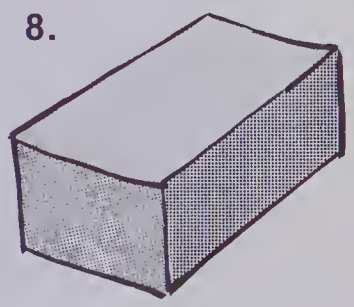
6.



7.

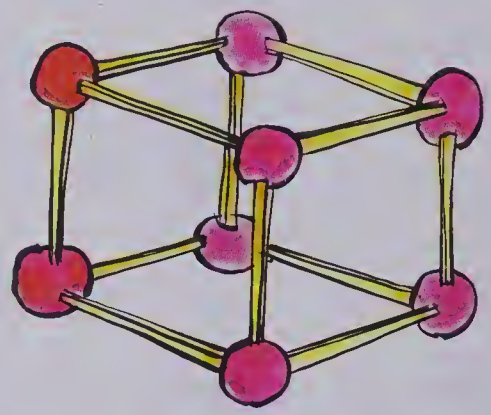


8.

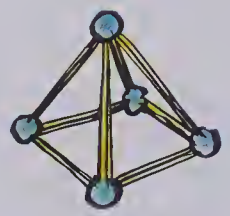


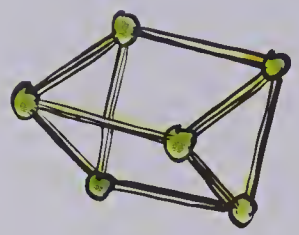
Let's Make Shapes

1. Use 12 toothpicks.
   Use 8 pieces of Plasticine.
   Make this skeleton cube.

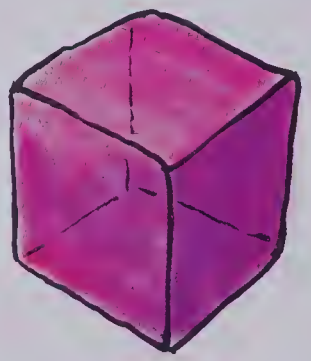


2. Make other skeleton shapes.

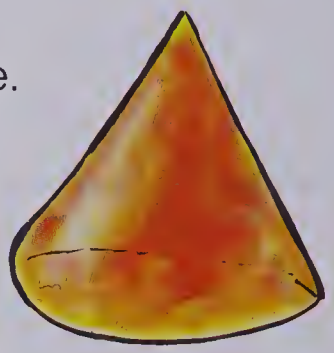




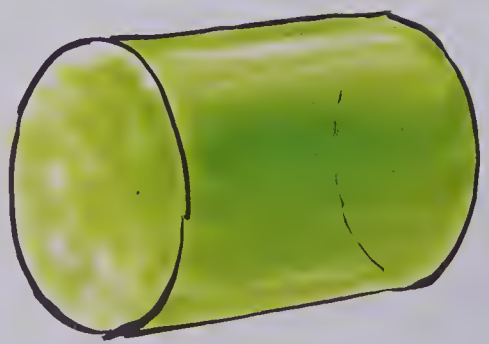
3. Use Plasticine.
   Make a cube.

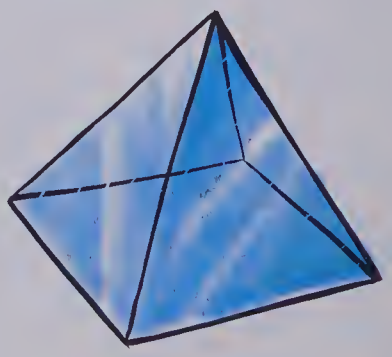


Make a cone.



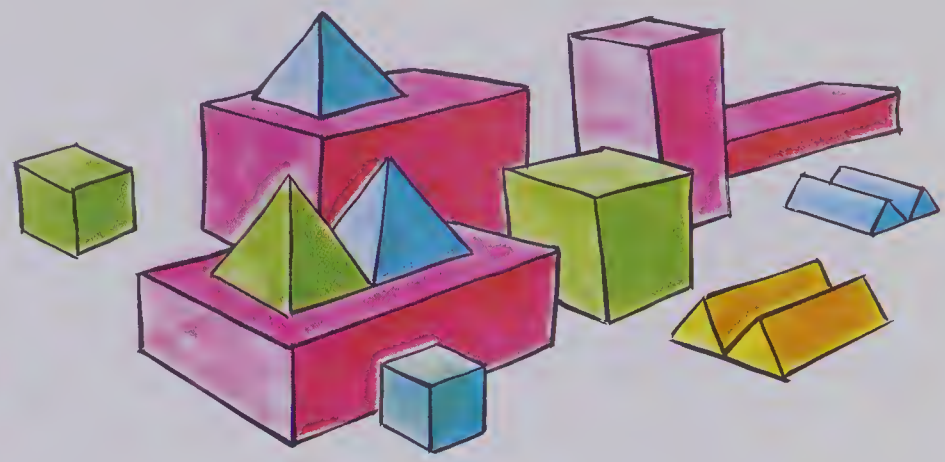
4. Make other shapes.
   Name each shape.



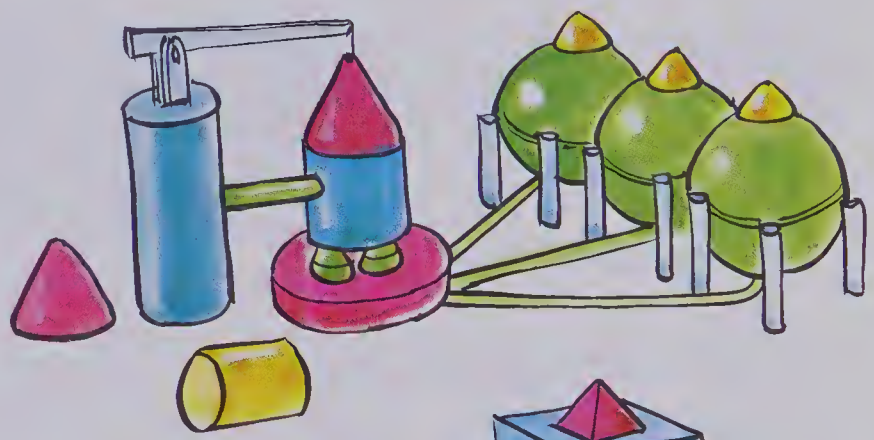


Counting Solid Shapes

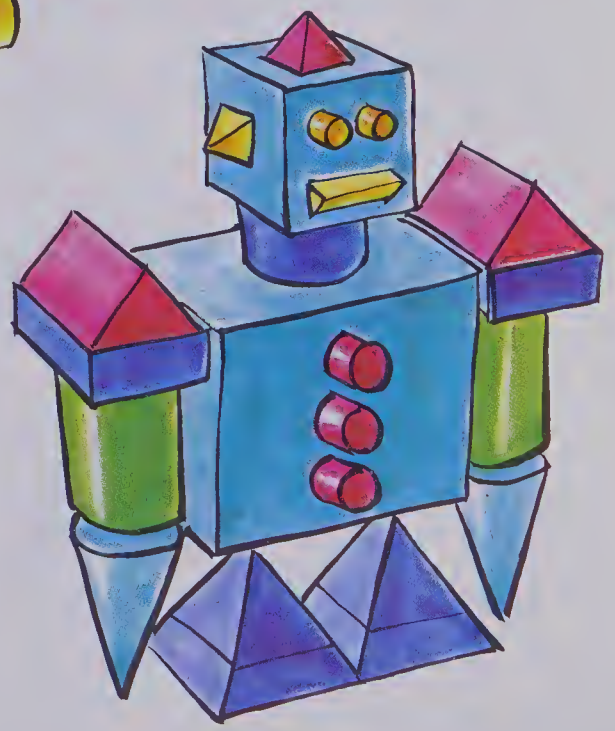
1. Count the number of
   (a) pyramids
   (b) triangular prisms
   (c) cubes
   (d) rectangular prisms



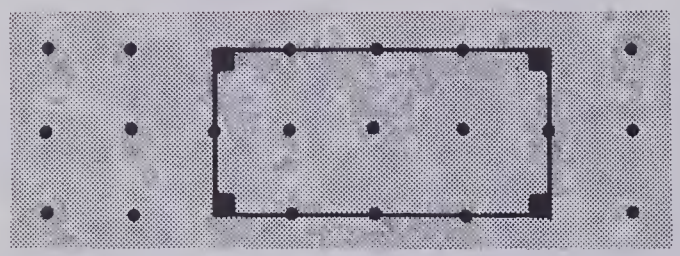
2. Count the number of
   (a) cones
   (b) cylinders
   (c) balls



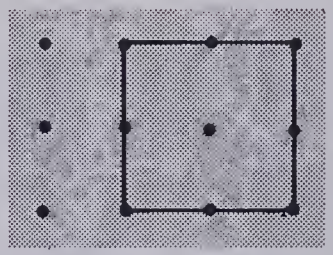
3. Count the number of
   (a) triangular prisms
   (b) pyramids
   (c) cylinders
   (d) cones
   (e) rectangular prisms
   (f) cubes



Rectangles



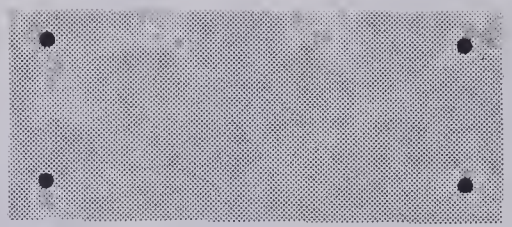
Square corners



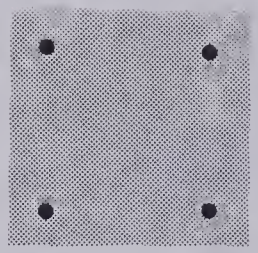
Rectangles have 4 sides
and 4 square corners.

A special rectangle:
the **square**.

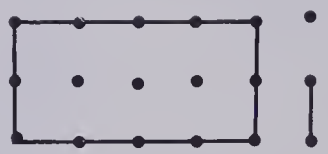
1. Trace the dots.
Draw a rectangle.



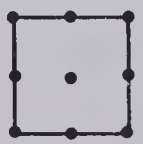
2. Trace the dots.
Draw a square.



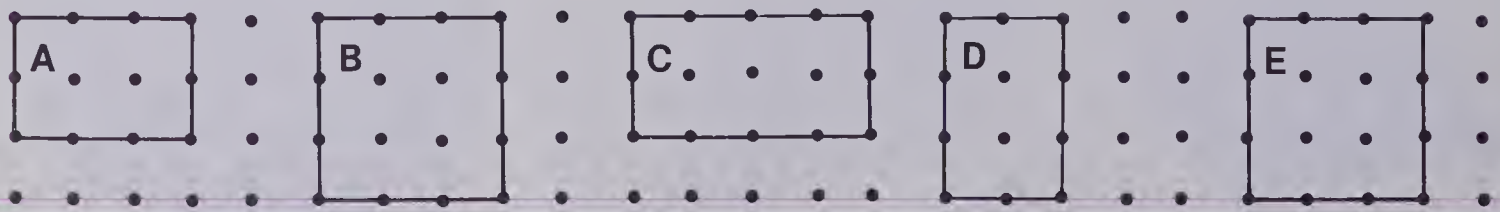
3. This rectangle is 4 units long.
How wide?
How many square corners?



4. How long is this square?
How wide?
How many square corners?



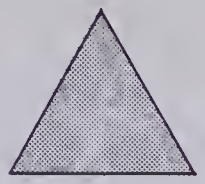
5. Which rectangles are the same size?



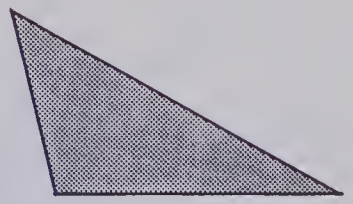
Types of Triangles

A triangle has
3 sides
and 3 corners.

Some have
2 sides the
same length.

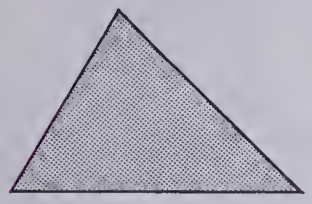


Some have
all 3 sides the
same length.



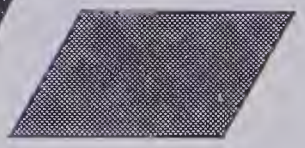
Some have
all sides of
different lengths.

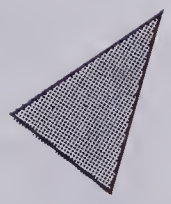
1. Which are triangles?

A 

B

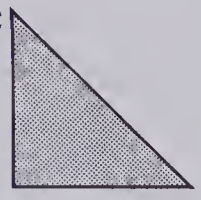
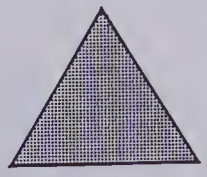
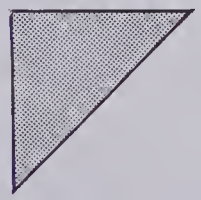
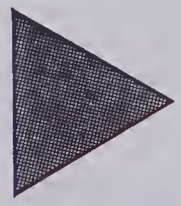
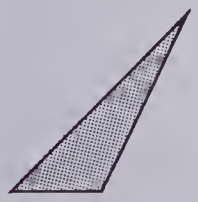
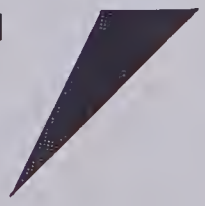
C

D 

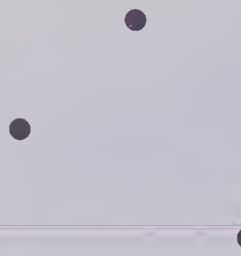
E 

F

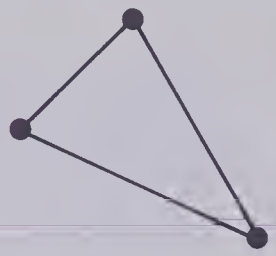
2. Match.

(1)	A	B	C 
(2) 	D	E 	F 
(3) 	G	H 	I

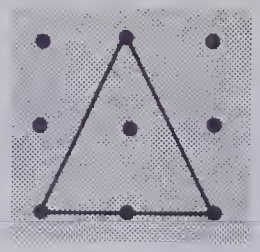
Drawing Triangles

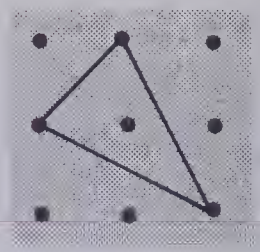


Make 3 points.



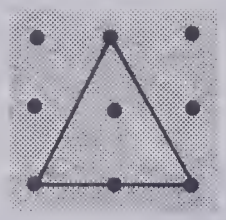
Draw segments.

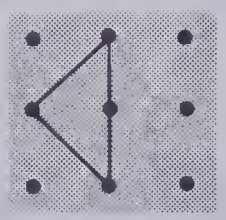


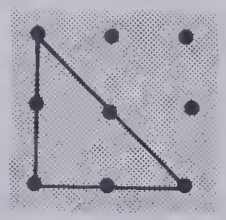


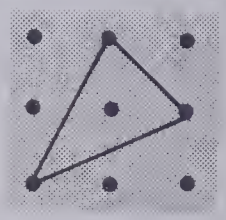
Make triangles on dot paper.

1. Draw each on dot paper.

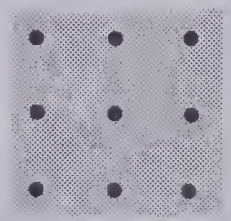






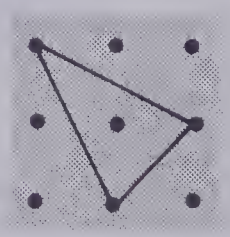


2. Use 3 by 3 dot paper.
   (a) Draw 4 different triangles.
   (b) Draw a triangle with two sides the same length.
   How many can you draw?
   (c) Draw a triangle with all sides different lengths.
   How many can you draw?

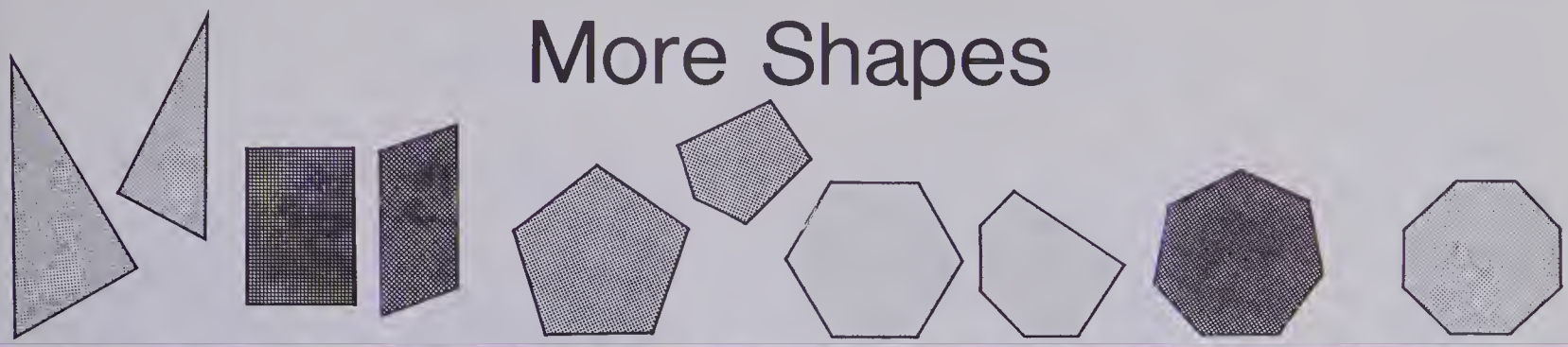


3. Place 3 dots anywhere on your page.
   Join them.
   What shape is formed?

★4. This triangle has one dot inside.
   (a) How many triangles can you draw with one dot inside?
   (b) How many triangles can you draw with no dots inside?

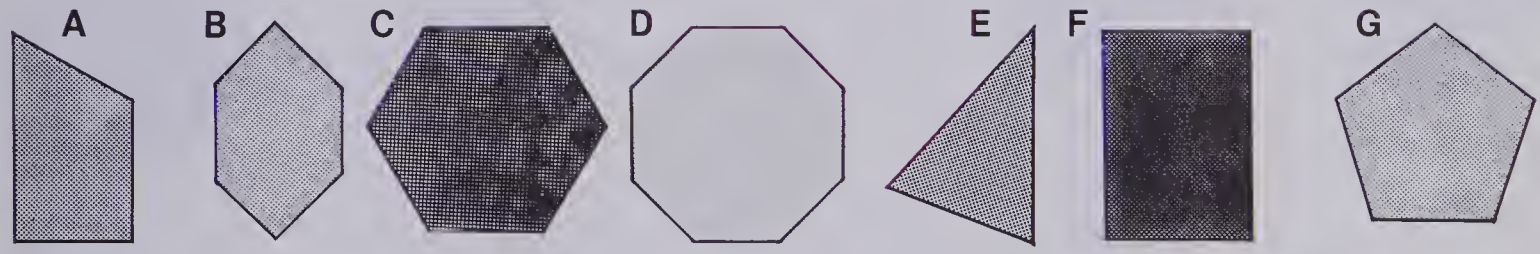


More Shapes

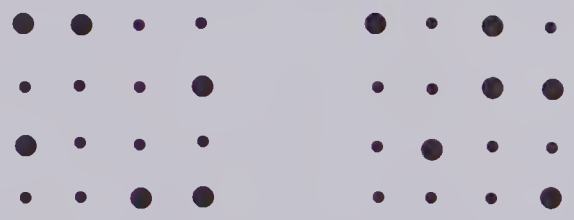


3 sides | 4 sides | 5 sides | 6 sides | 7 sides | 8 sides

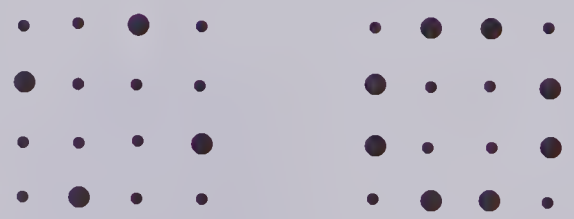
1. How many sides? A → 4 sides
   How many corners? A → 4 corners



2. Trace the heavy dots.
   Draw 6-sided shapes.



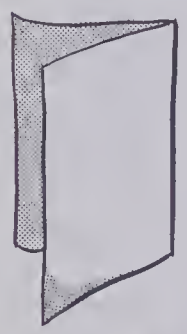
3. Trace the heavy dots.
   Draw shapes using all the heavy dots.

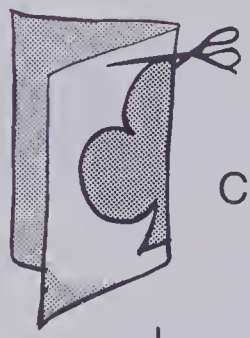


4. Use dot paper. Make different shapes.
   Name the number of sides and corners on each shape.

Matching Halves

Fold paper.





Cut.

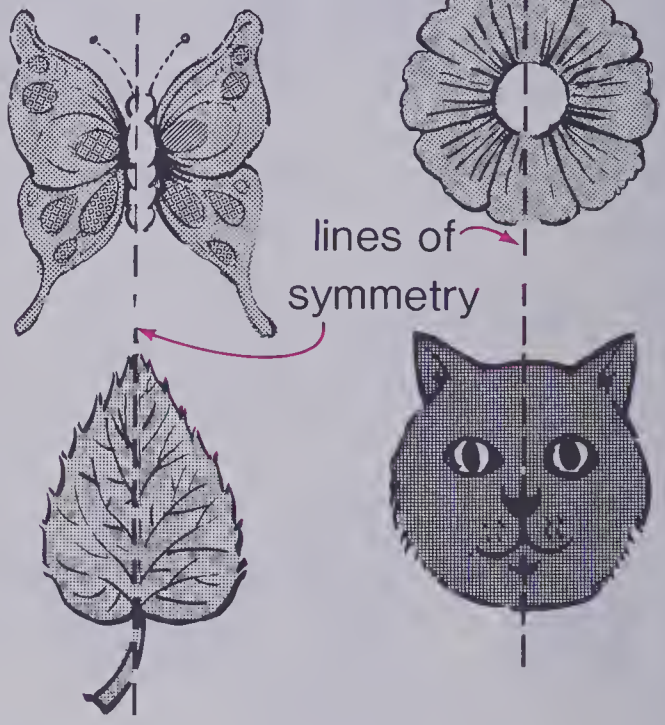
Keep cut-out part.

Unfold.

line of symmetry

One half matches the other half.

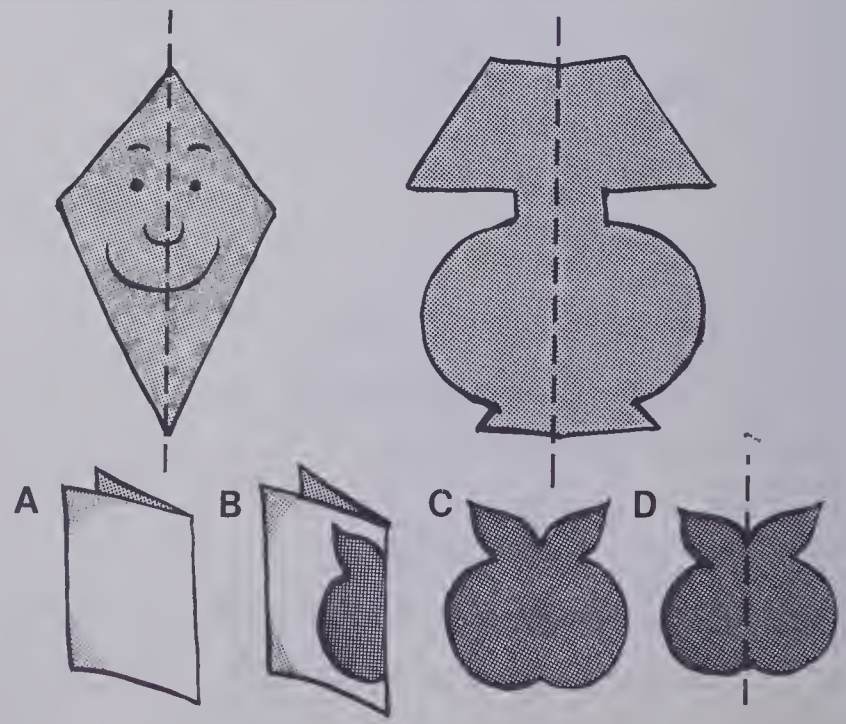
Examples of Symmetry



1. Trace.
   Cut out.
   Fold on dotted line.
   Do the 2 parts match?

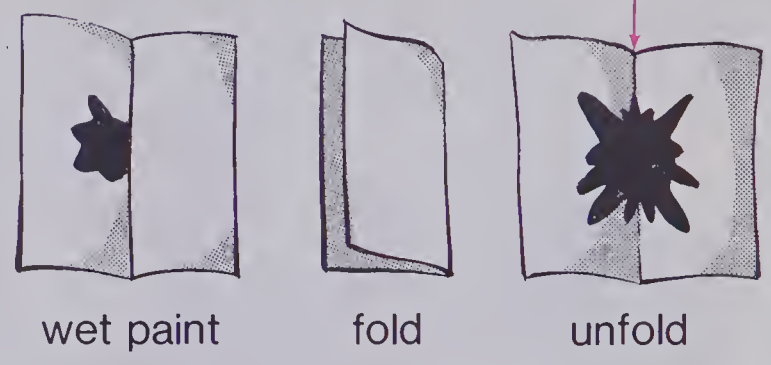
2. (a) Fold a sheet of paper.
   (b) Cut out a pattern.
   (c) Unfold.
   (d) Mark the line of symmetry.

3. Repeat Number 2 for other shapes.

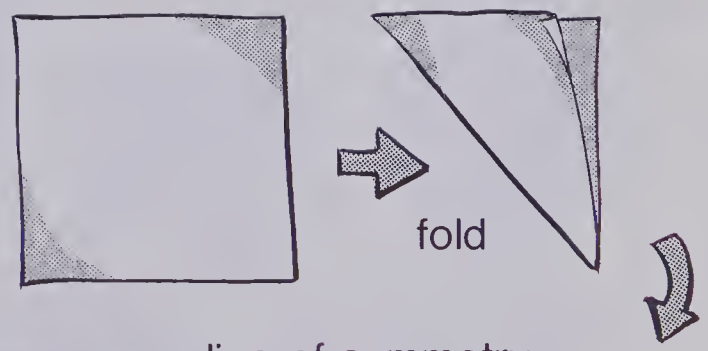


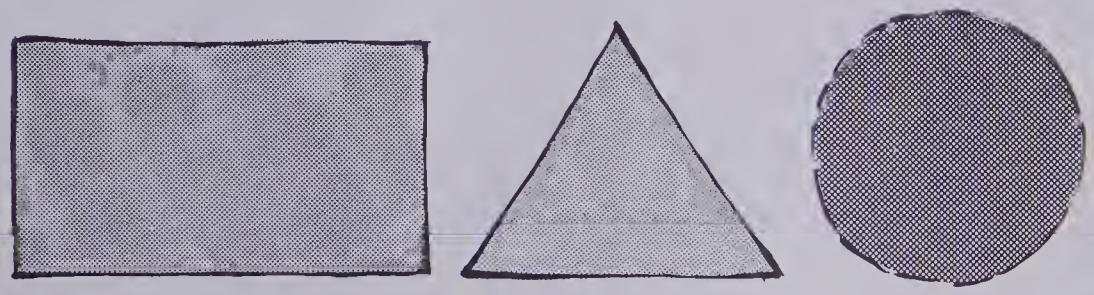
Symmetrical Shapes

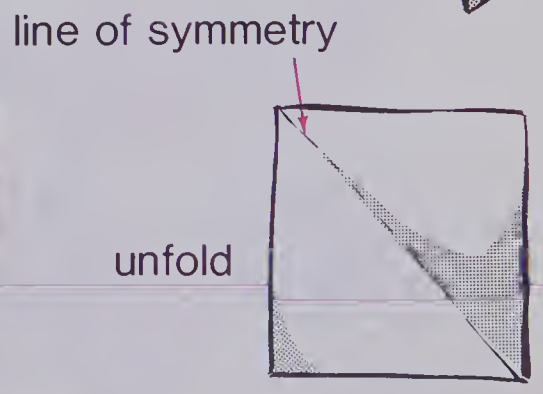
1. Make a paint-blot design.
2. Place a mirror on the pattern so half is on the page and half is in the mirror.
3. Draw a line of symmetry.
4. Repeat with different paint-blots.
5. Put your paint-blots on the bulletin board.



Trace the square.
Cut out.
Fold to find lines of symmetry.
Find as many lines of symmetry as you can.
Use other shapes.







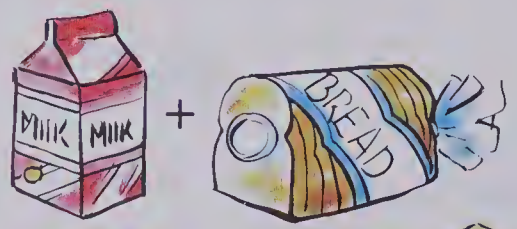
Grocer

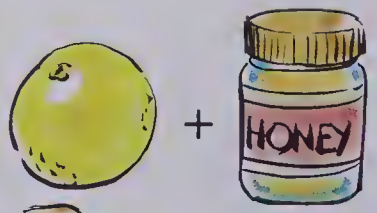
Henri runs a grocery store.

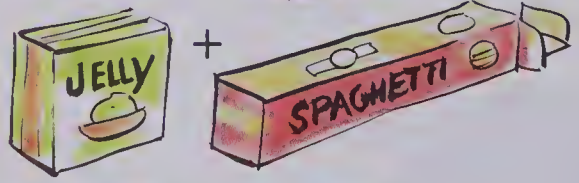
1. Name the shapes: jelly box, grapefruit, bread, signs, syrup.

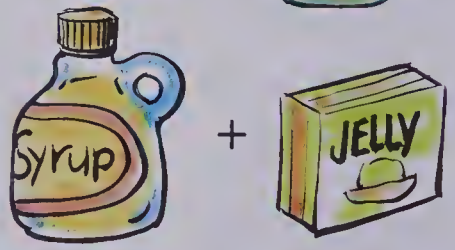
2. What other shapes might Henri have in the grocery store?

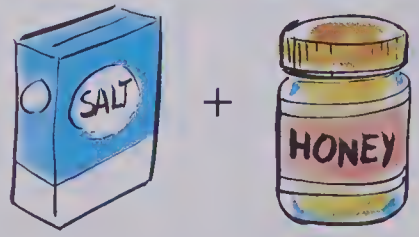
What is the price of the following?

3. 

4. 

5. 

6. 

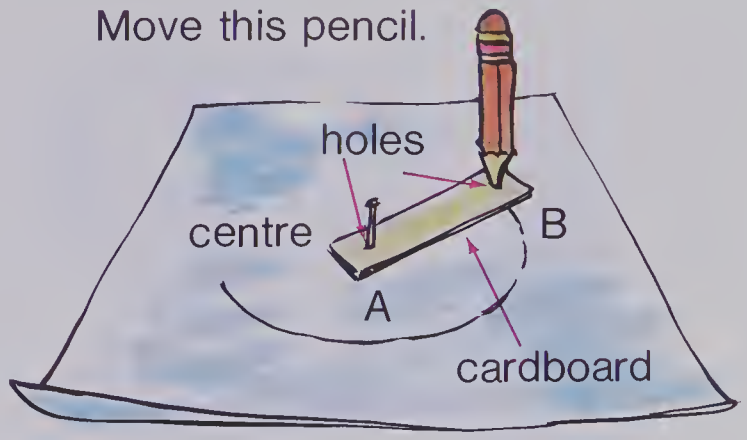
7. 

★ 8.

Circles

Ways to draw circles.

Move this pencil.

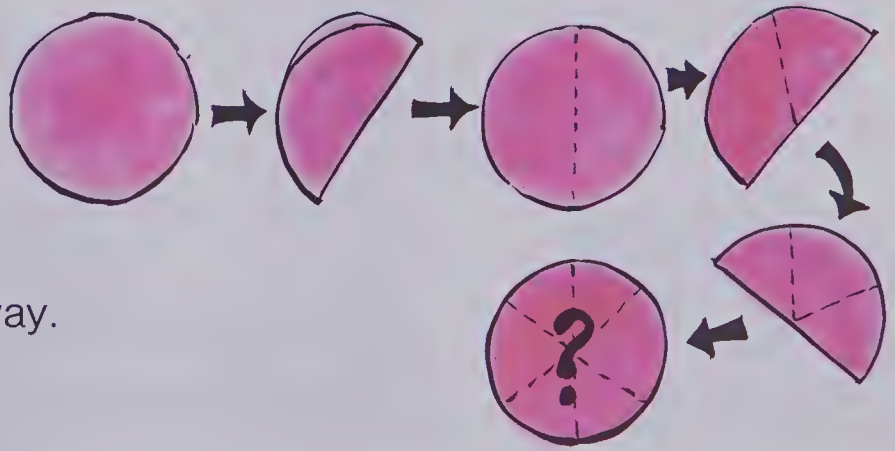


1. Use a round can. Trace a circle.
   Repeat with different size cans.

2. Draw a circle using one other method.
   Repeat for a different size circle.

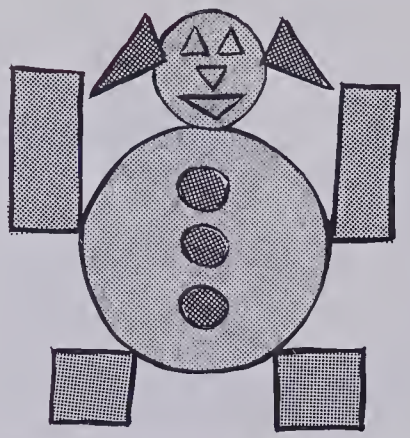
3. Pick the circles.

4. (a) Draw a circle.
   (b) Cut out.
   (c) Fold to match.
   (d) Unfold. Fold a different way.
   (e) Repeat.
   (f) What did you find?



Counting Shapes

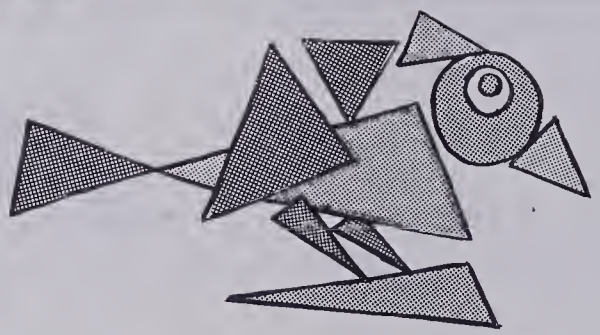
5 circles
6 triangles
4 rectangles
2 squares



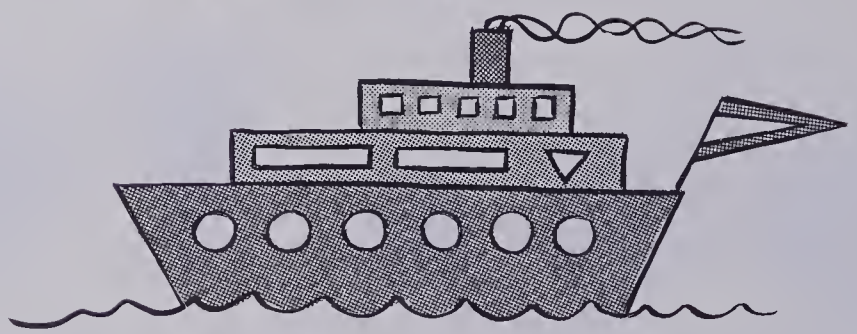
Your clue for the day:

Remember! Squares are rectangles.

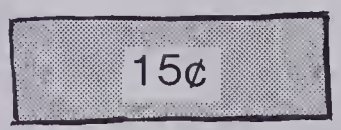
1. Count the number of
   (a) circles
   (b) triangles
   (c) four-sided shapes

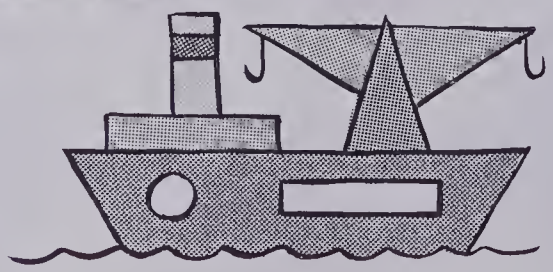


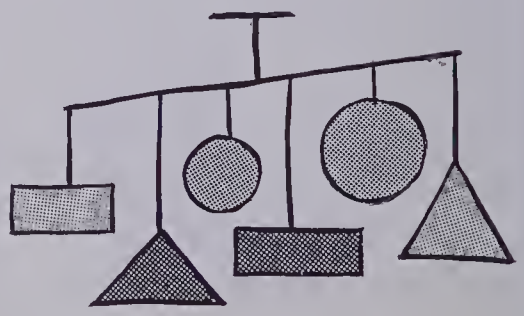
2. Count the number of
   (a) triangles
   (b) circles
   (c) rectangles
   (d) squares



3. What is the value of each picture?

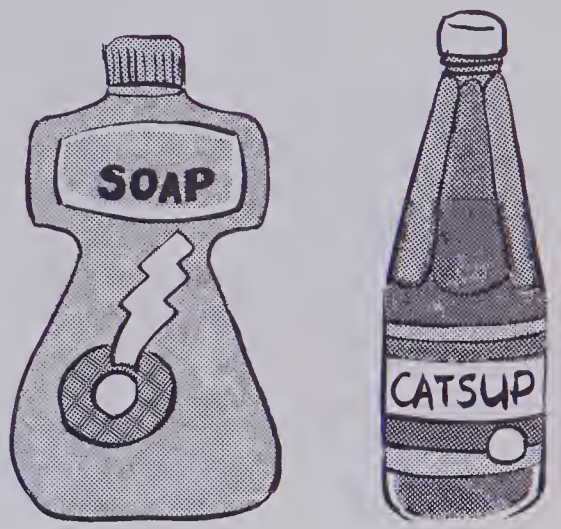






Little Shapes and Big Shapes

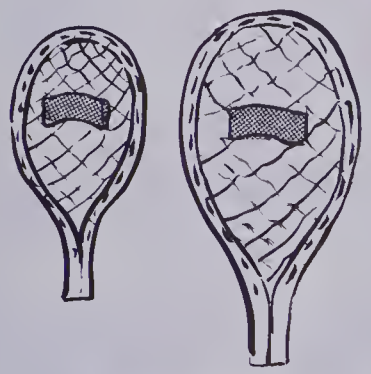
These bottles have the same shape.
They are different sizes.
They are **similar.**



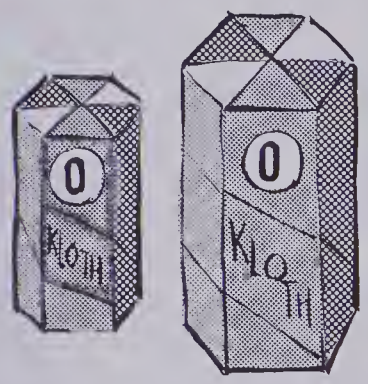
These bottles are not the same shape.
They are *not* similar.

Which are similar shapes?

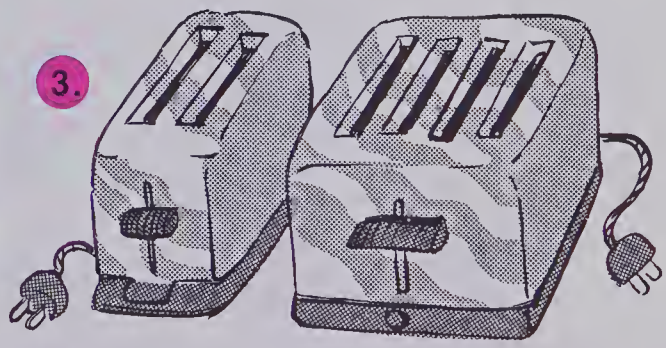
1.



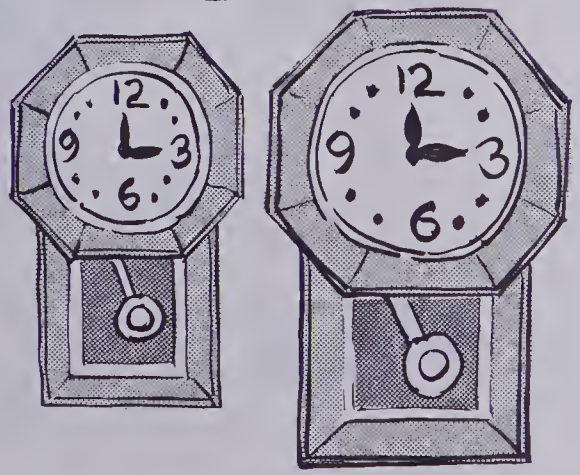
2.



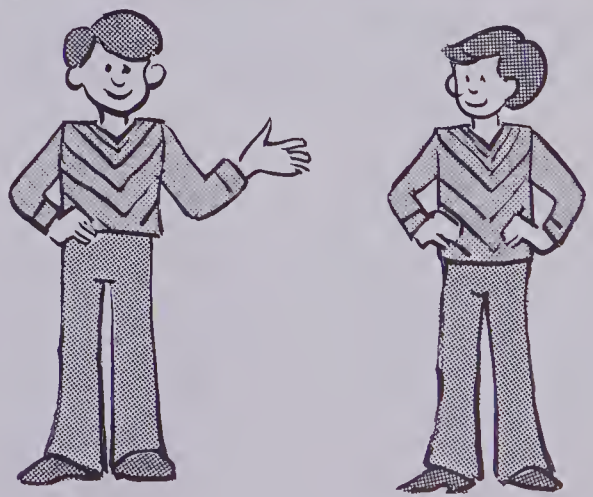
3.



4.

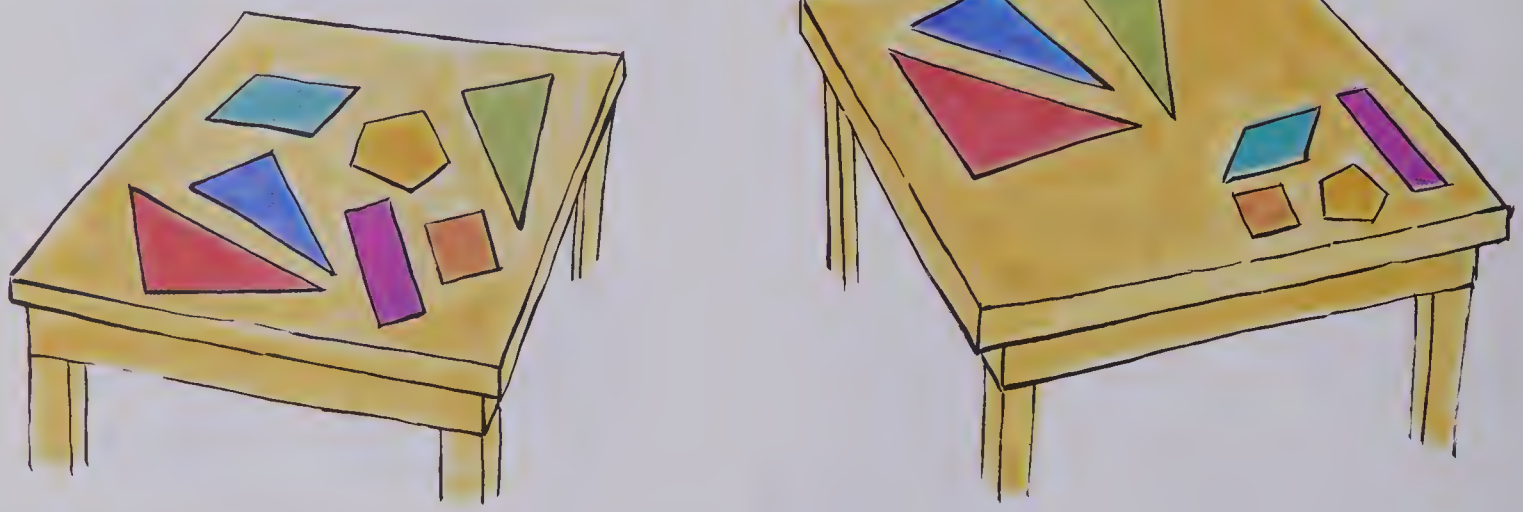


5.



Sorting

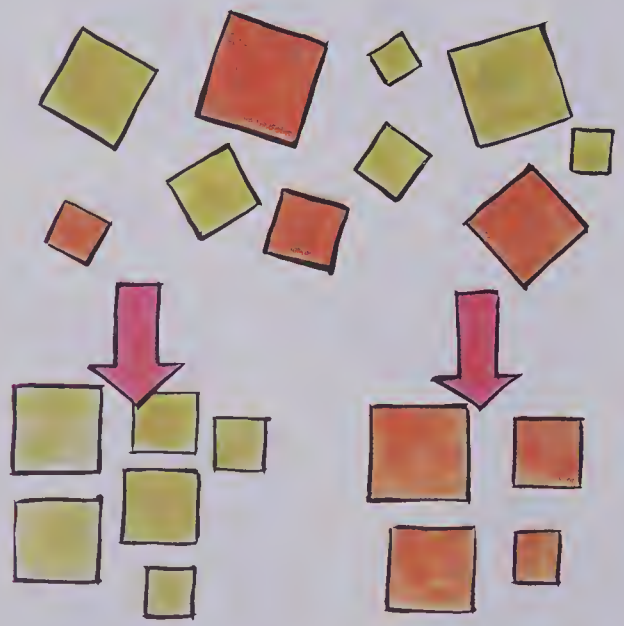
John sorted the shapes.



John used this sorting rule: Triangles in one pile.
Others in another pile.

What is the rule?

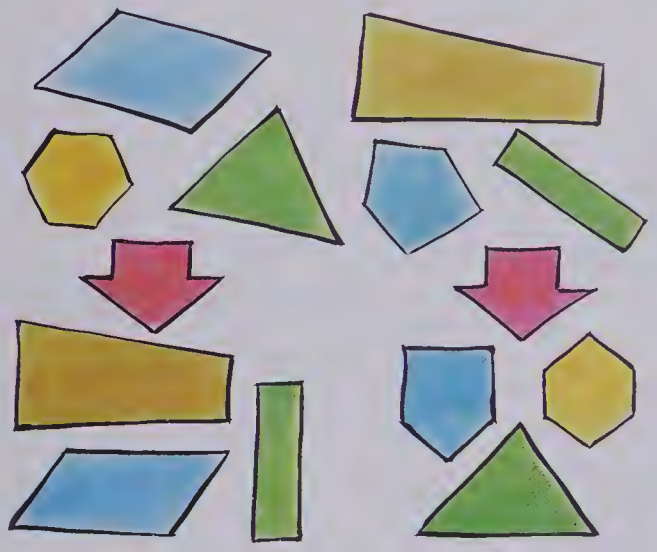
1.



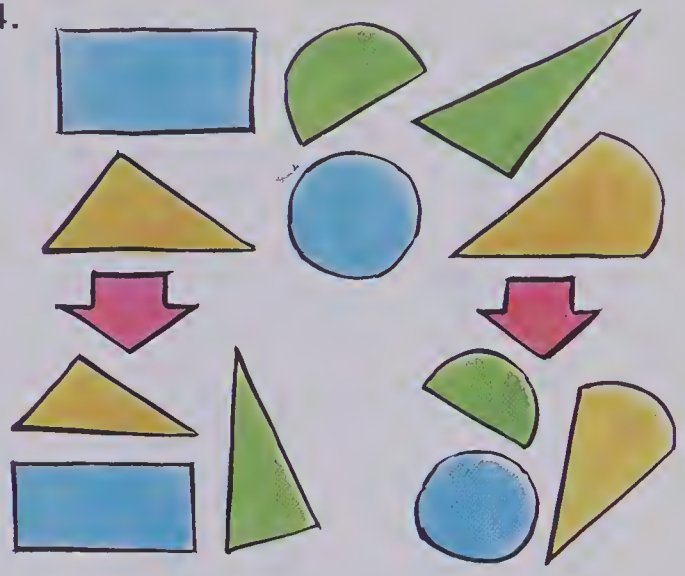
2.

What is the rule?

3.

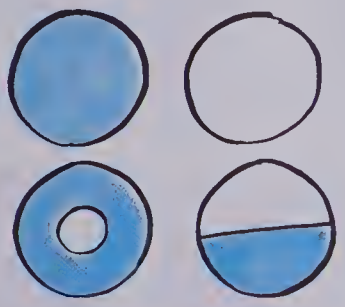


4.



5. Name a rule for sorting.

★6. Mary sorted these circles.



Rule: White circles in one set.
Coloured circles in the other set.
Is this a good rule? Why?

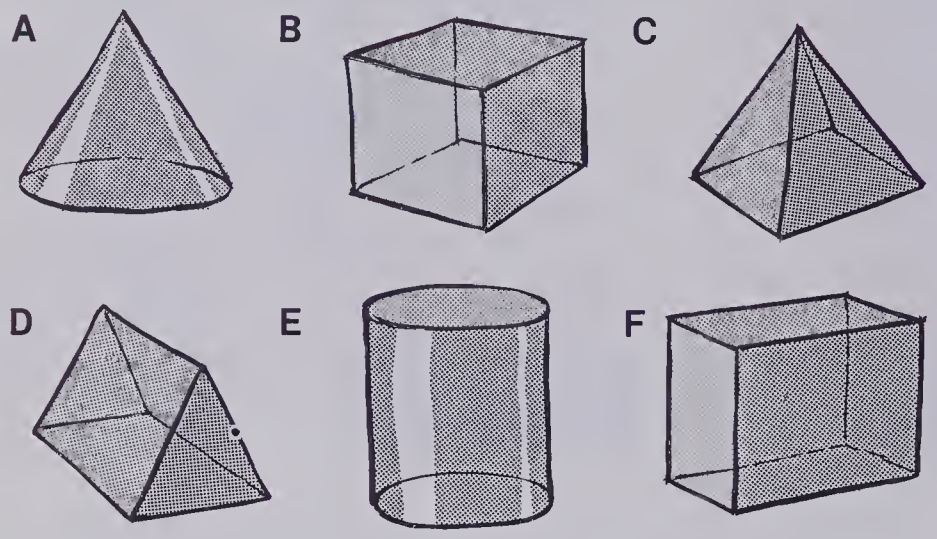
BRAINTICKLER

Use the digits 1, 3, and 5.
How many 3-digit numbers can you make?

(a) Which is the largest number?
(b) Which is the smallest number?

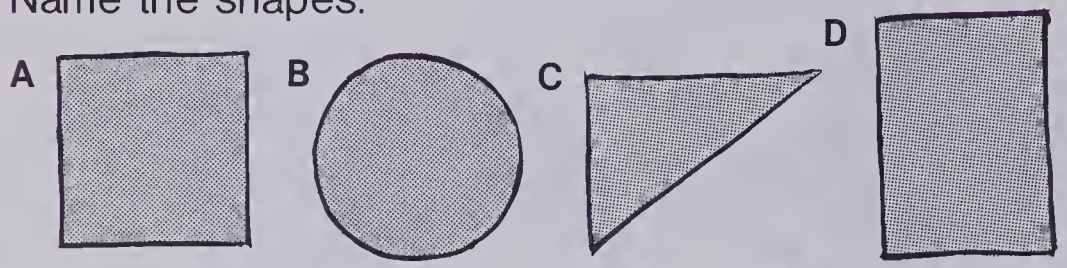
Chapter Test

1. Name the shapes.



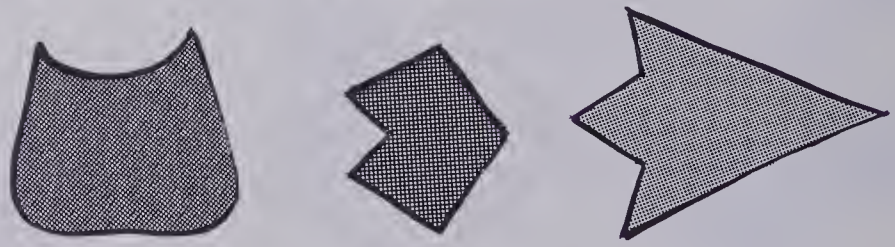
cube
pyramid
cylinder
triangular prism
rectangular prism
cone

2. Name the shapes.

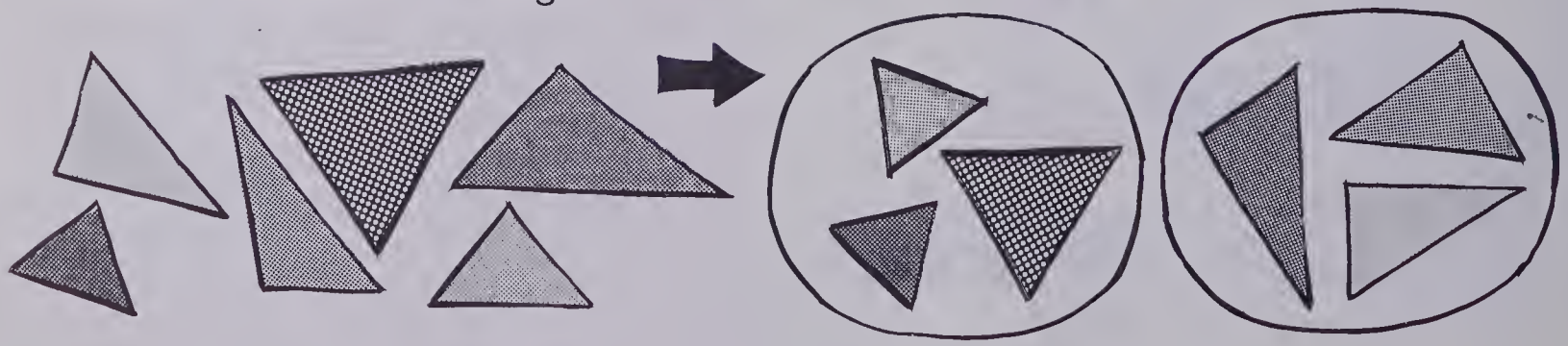


triangle
circle
square
rectangle

3. Trace each. Draw a line of symmetry on each.



4. Name the rule for sorting.



Cumulative Review

Add.

1. 50 + 8	**2.** 63 + 15	**3.** 23 + 57	**4.** 38 + 40	**5.** 26 + 47
6. 413 + 376	**7.** 140 + 409	**8.** 514 + 237	**9.** 606 + 209	**10.** 389 + 154

Subtract.

11. 15 - 8	**12.** 27 - 7	**13.** 36 - 14	**14.** 68 - 26	**15.** 44 - 17
16. 489 - 154	**17.** 538 - 263	**18.** 608 - 302	**19.** 802 - 136	**20.** 823 - 476

Copy and complete using $>$, $<$, or $=$.

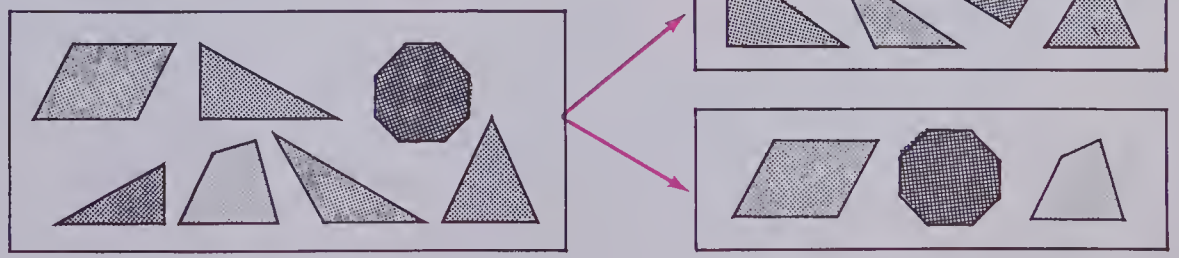
21. 36 ● 63 **22.** 156 ● 211 **23.** 989 ● 989

Copy and complete.

24. 45 = ■ tens and ▲ ones **25.** 308 = ■ hundreds, ▲ tens, and ▼ ones

26. 3rd, 4th, 5th, ■, ■, ■, ■, ■.

27. What is the rule?



Chapter 4

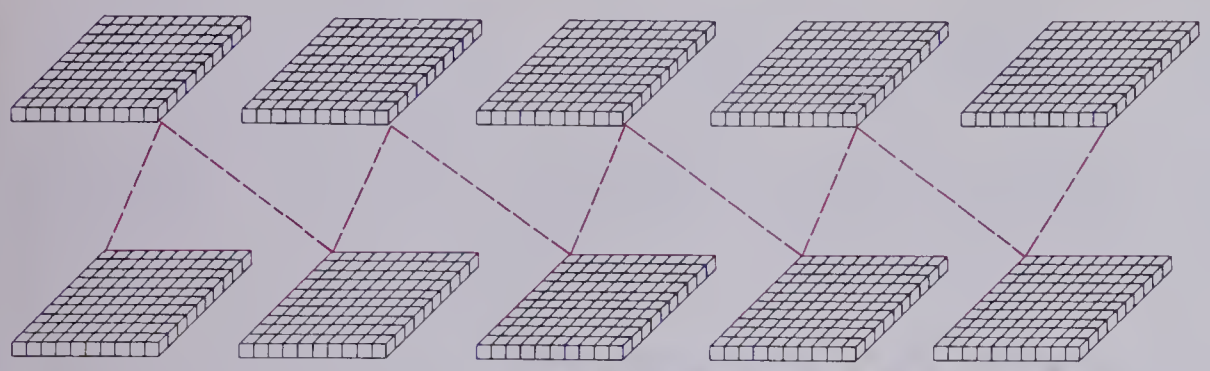
Whole Numbers

Place Value to 4 Digits

Addition

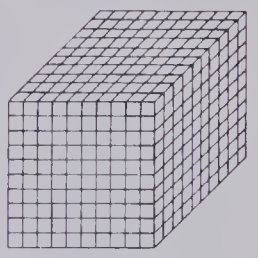
Measurement: Length and Mass

Thousands



10 hundreds

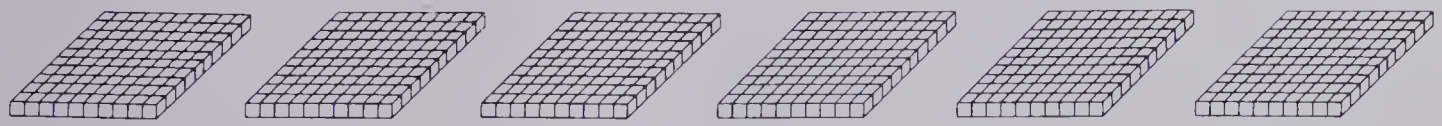
=



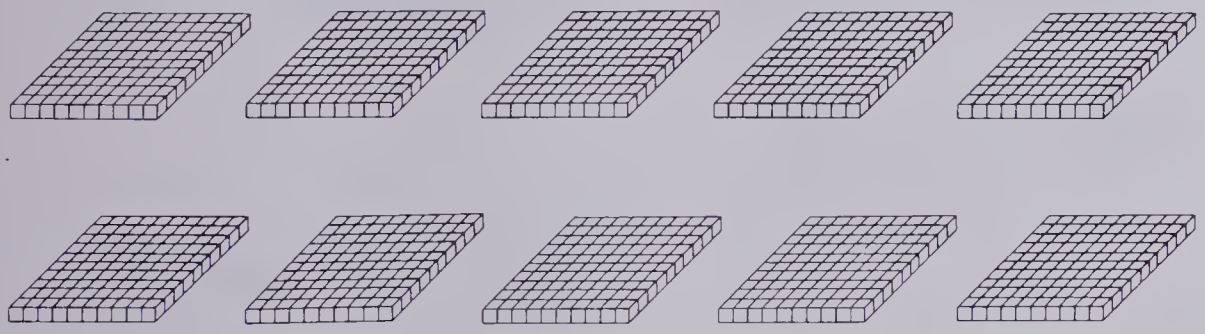
10 hundreds = 1 thousand
= 1000

Which of these show one thousand? Write the number for each.

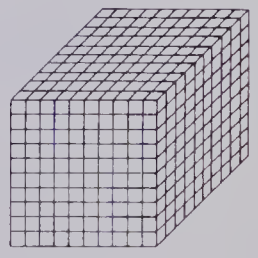
1.



2.

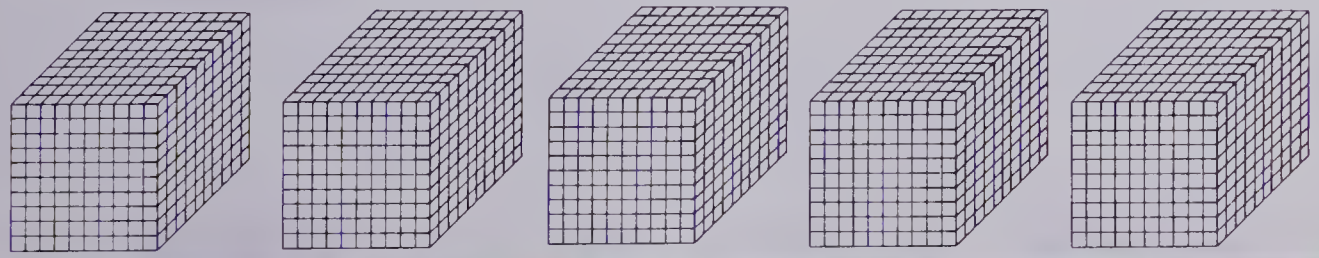


3.

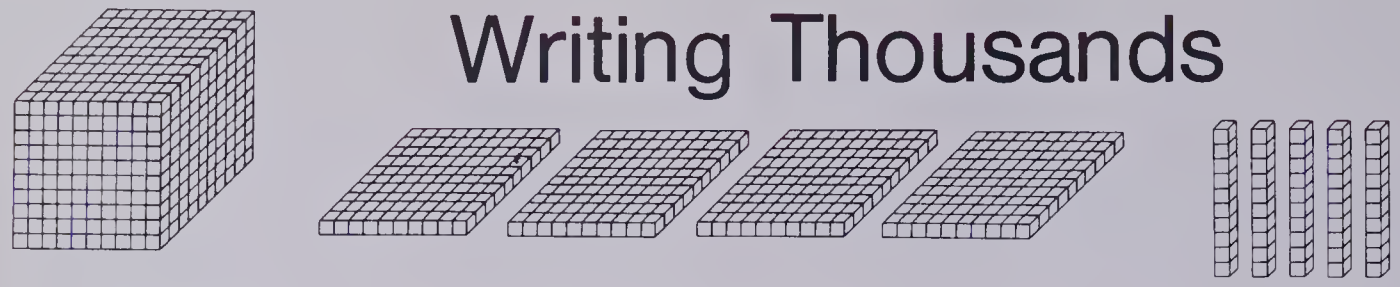


How many thousands? Write the number.

4.



Writing Thousands



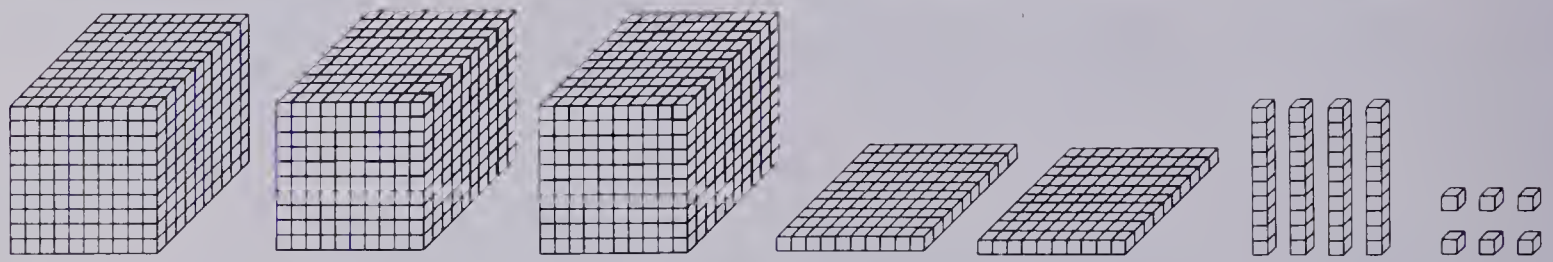
thousands	hundreds	tens	ones
2	4	5	8

2 thousands 4 hundreds 5 tens 8 ones

2458

Copy the charts and write the numbers.

1.



thousands	hundreds	tens	ones
3	2	4	6

3246

2.

thousands	hundreds	tens	ones
8	5	9	9

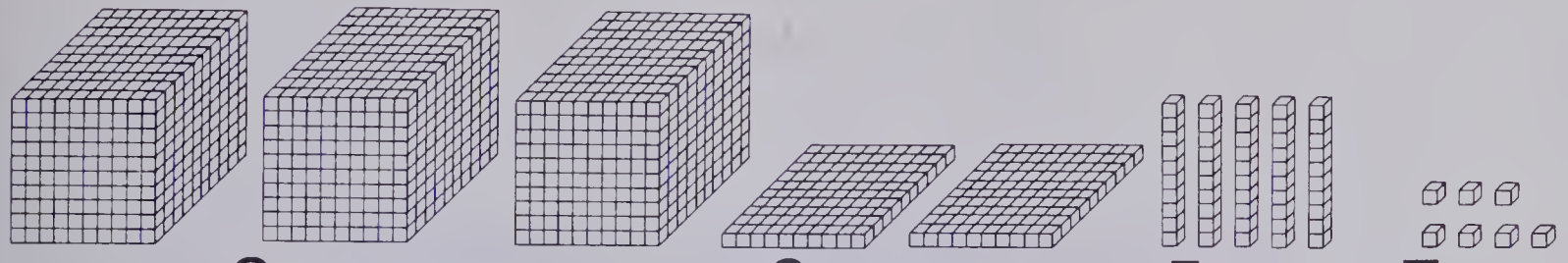
3.

thousands	hundreds	tens	ones
6	1	4	1

4.

thousands	hundreds	tens	ones
2	0	5	6

How Many?



3 thousands 2 hundreds 5 tens 7 ones

3 2 5 7

How many thousands in 3257?
How many hundreds in 3257?
How many tens in 3257?
How many ones in 3257?

How many thousands?

1. 6000 2. 4000 3. 3571 4. 9876

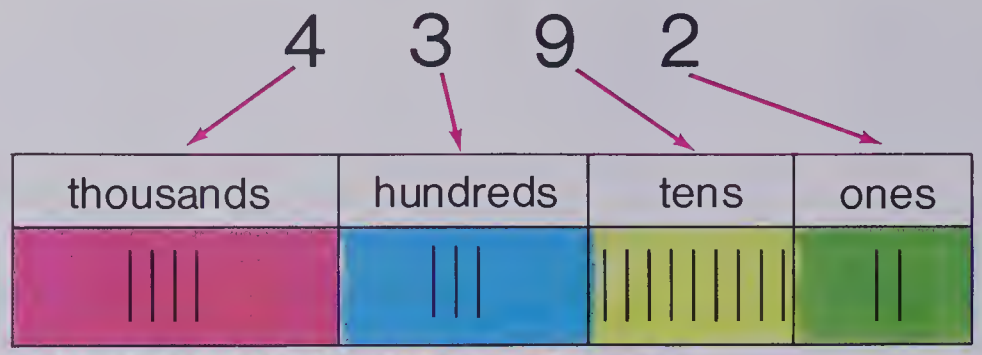
How many hundreds?

5. 2300 6. 1500 7. 2543 8. 3649

Write the numerals.

9. 6 thousands 4 hundreds 2 tens 4 ones 6424
10. 3 thousands 0 hundreds 6 tens 7 ones
11. 9 thousands 1 hundred 3 tens 2 ones
12. 2 thousands 7 hundreds 0 tens 1 one
13. 7 thousands 2 hundreds 4 tens 0 ones
14. 4 thousands 0 hundreds 1 ten 8 ones
15. 6 thousands 0 hundreds 0 tens 3 ones

Names of Numbers



4392 = 4 thousands 3 hundreds 9 tens 2 ones

4392 = four thousand, three hundred ninety-two

Copy and complete.

1. 4371 = ■ thousands ■ hundreds ■ tens ■ ones
2. 1725 = ■ thousands ■ hundreds ■ tens ■ ones
3. 8143 = ■ thousands ■ hundreds ■ tens ■ ones
4. 2520 = ■ thousands ■ hundreds ■ tens ■ ones
5. 3215 = ■ thousands ■ hundreds ■ tens ■ ones
6. 8094 = ■ thousands ■ hundreds ■ tens ■ ones
7. 6708 = ■ thousands ■ hundreds ■ tens ■ ones
8. 5220 = ■ thousands ■ hundreds ■ tens ■ ones

Write the numeral.

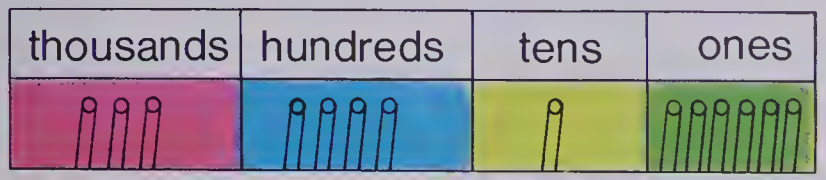
9. twenty-six
10. one thousand, three hundred twenty-six
11. three hundred twenty-six
12. five thousand, six hundred seventeen
13. six thousand, four
14. eight thousand, one hundred ninety-six

What does the 2 mean in each number?

15. 2346 16. 8962 17. 4289 18. 1429 19. 2684

Counting

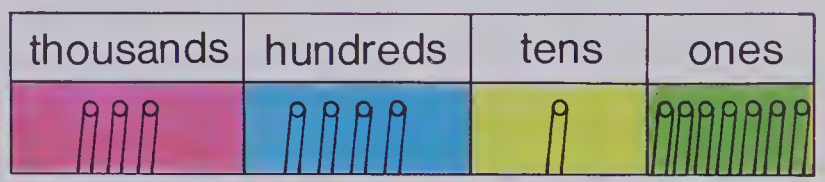
Jan made these charts.
She placed straws in the pockets
to show a number.



3 thousands 4 hundreds 1 ten 6 ones

3416

One more is



3417

And **one** more is

3418

We count: 3416 3417 3418 ...

Write the numeral. Then write the next two.

1.

th	h	t	o
||	|||||	||	|||

2.

th	h	t	o
|||||||	||	|||	||||

3.

th	h	t	o
|||||	|	||||||||	||||||

4.

th	h	t	o
||	|	||||||||	||||||||

Copy and complete.

5. (a) 1162 1163 1164 ▬ ▬ ▬ ▬

(b) 8743 8744 8745 ▬ ▬ ▬ ▬

(c) 3187 3188 3189 ▬ ▬ ▬ ▬

Comparing

Which is more? 2417 or 3151?

Compare thousands first.

th	h	t	o
2	4	1	7

$2 < 3$

th	h	t	o
3	1	5	1

$2417 < 3151$

2415 or 2356?

Compare thousands first.

th	h	t	o
2	4	1	5

$2 = 2$

Compare hundreds next.

$4 > 3$

th	h	t	o
2	3	5	6

$2415 > 2356$

Compare. Use > or <.

1. 3000

th	h	t	o
3			

2000

th	h	t	o
2			

3000 ● 2000

2. 3417

th	h	t	o
3	4	1	7

3617

th	h	t	o
3	6	1	7

3417 ● 3617

Copy and complete. Use > or < . Use your chart if necessary.

3. 3416 > 3247

4. 8274 ● 8129

5. 1826 ● 1862

6. 1472 ● 1369

7. 5265 ● 2543

8. 8342 ● 8354

9. 2086 ● 2873

10. 4059 ● 5924

11. 9541 ● 9451

Larger Sums

Add:		5 hundreds	6 tens	4 ones	+
		7 hundreds	1 ten	2 ones	
Sum:		12 hundreds	7 tens	6 ones	
or	1 thousands	2 hundreds	7 tens	6 ones	

th	h	t	o
	5	6	4
	7	1	2
1	2	7	6

1.

Add:		5 hundreds	4 tens	5 ones	+
		6 hundreds	7 tens	9 ones	
Sum:		■ hundreds	■ tens	■ ones	
or	■ thousands	■ hundreds	■ tens	■ ones	

th	h	t	o
	5	4	5
	6	7	9

Copy and add.

2.

th	h	t	o
	8	6	5
	5	2	4

3.

th	h	t	o
	8	8	9
	4	1	0

4.

th	h	t	o
	4	2	7
	7	8	8

5.

th	h	t	o
	5	4	8
	6	7	7

6. 325 + 864 = ____

7. 643 + 544 = ____

8. 609 + 690 = ____

9. 769 + 401 = ____

10. 635 + 825 = ____

11. 649 + 562 = ____

12. 711 + 699 = ____

13. 573 + 848 = ____

14. 439 + 984 = ____

15. 777 + 666 = ____

Practice

Copy and add.

1. 823 +415	**2.** 326 +971	**3.** 813 +981	**4.** 761 +827	**5.** 934 +965

Look for patterns.

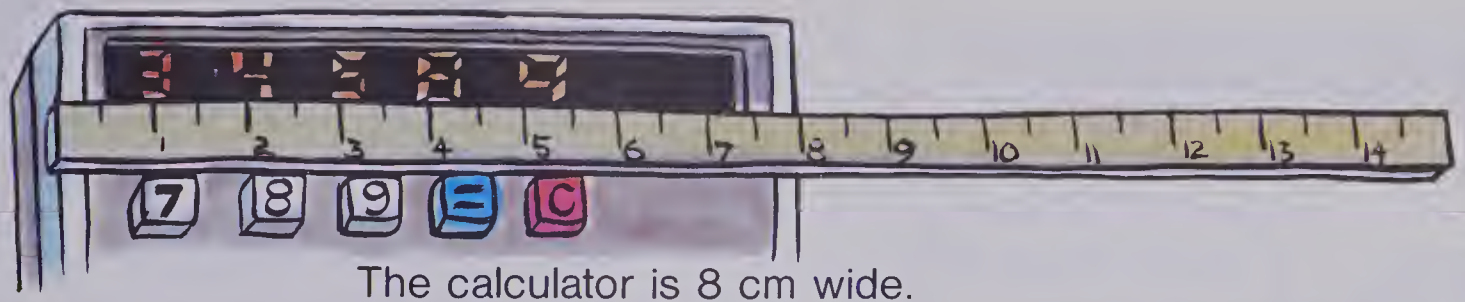
6. 618 +826	**7.** 637 +918	**8.** 908 +758	**9.** 909 +868	**10.** 909 +979
11. 888 +346	**12.** 677 +668	**13.** 677 +779	**14.** 778 +789	**15.** 789 +889
16. 235 +876	**17.** 235 +987	**18.** 679 +654	**19.** 901 +543	**20.** 679 +876

21. 574 people arrived before lunch.
739 people arrived after lunch.
How many arrived during the day?

22. Lucille's Hot Dog Stand sold 642 hot dogs the first day and 859 the second day.
How many hot dogs were sold altogether?

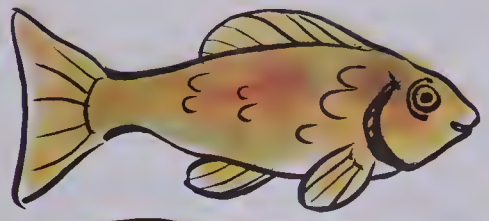
23. Handy Dandy sold 712 candy floss the first day and 979 the second day.
How many candy floss were sold altogether?

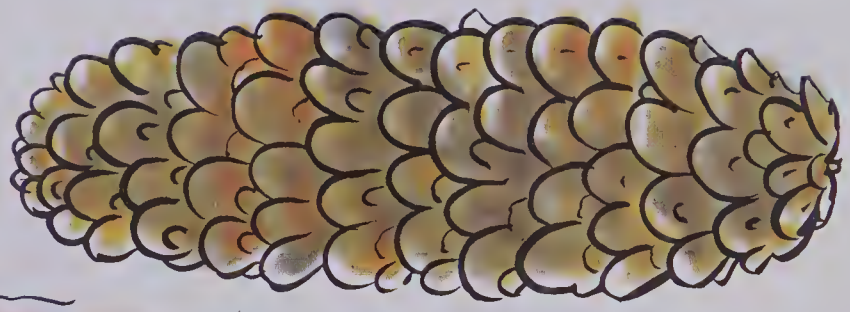
Using Centimetres

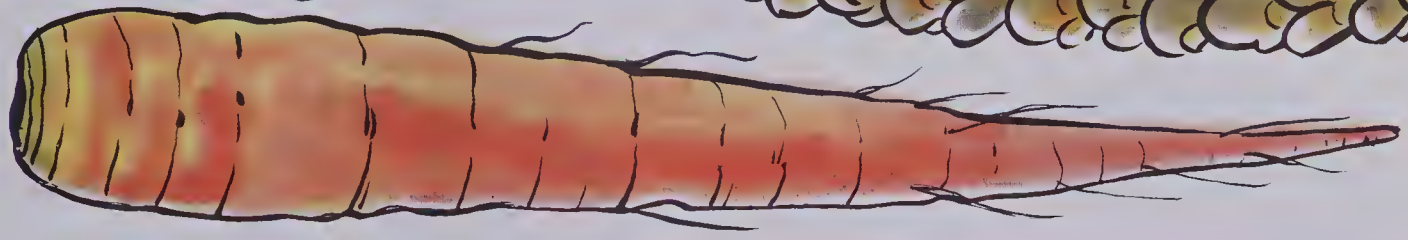


The calculator is 8 cm wide.

Record the lengths in centimetres.

1. 

2. 

3. 

Solve the problems.

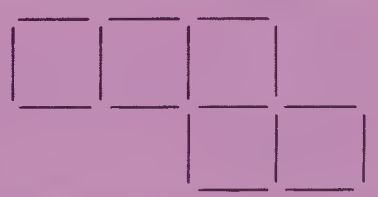
4. The whooping crane is about 124 cm tall.
   The sandhill crane is about 98 cm tall.
   How much taller is the whooping crane?

5. A robin is about 25 cm long.
   A wren is about 9 cm long.
   How much longer is the robin?

6. The whooping crane is about 137 cm long.
   The sandhill is about 115 cm long.
   How long are the two together?

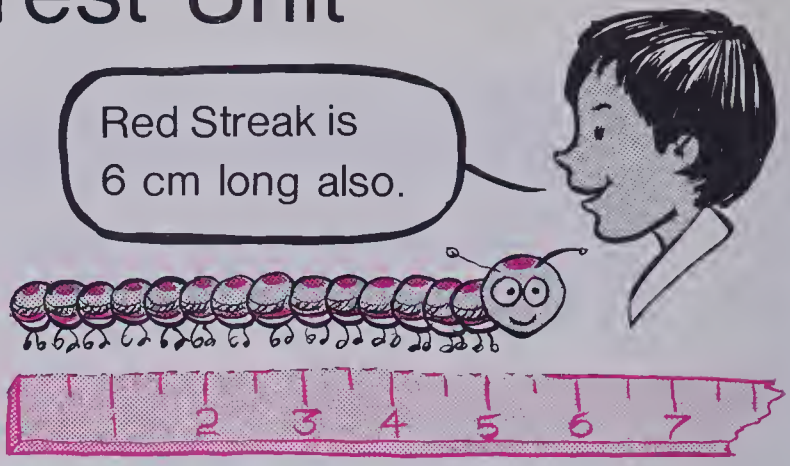
BRAINTICKLER

Make this pattern using
16 sticks of the same length.
Move only 2 sticks to make
4 squares.
No sticks left over!



To the Nearest Unit

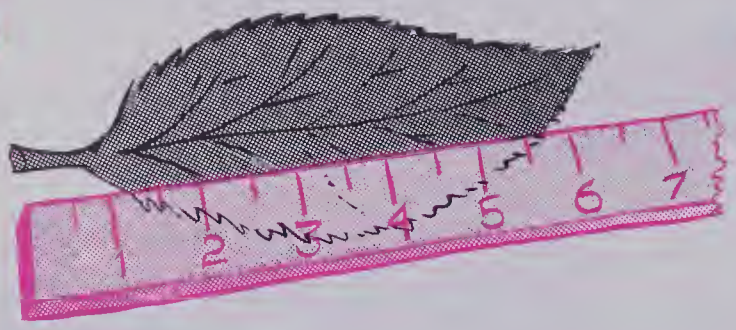
Black Streak is 6 cm long.



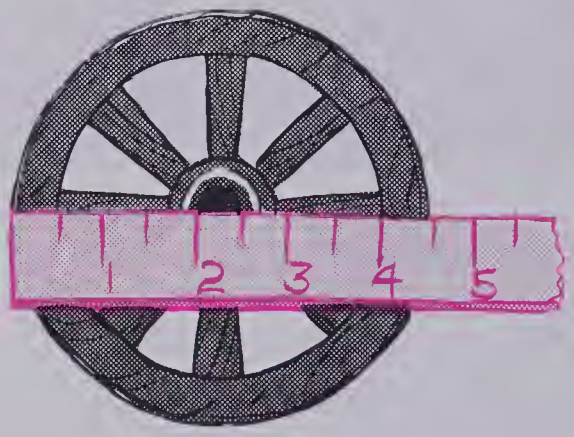
Black Streak is closer to 6 cm than 7 cm.
Red Streak is closer to 6 cm than 5 cm.
The lengths have been given to the nearest centimetre.

Write the measurements to the nearest centimetre.

1.



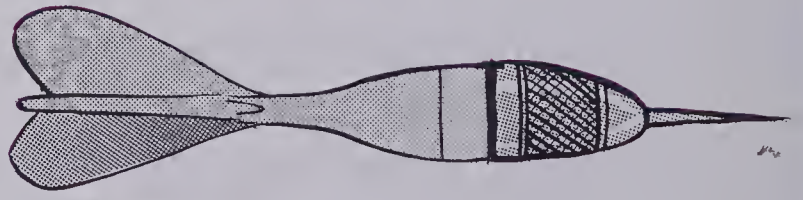
2.



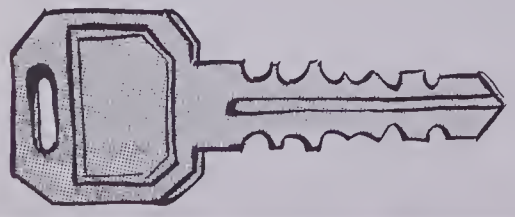
Use your centimetre ruler.

3.

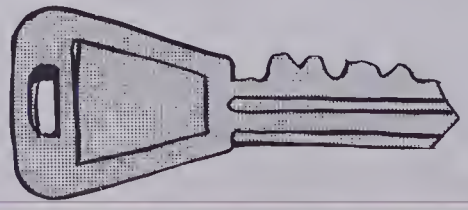
4.



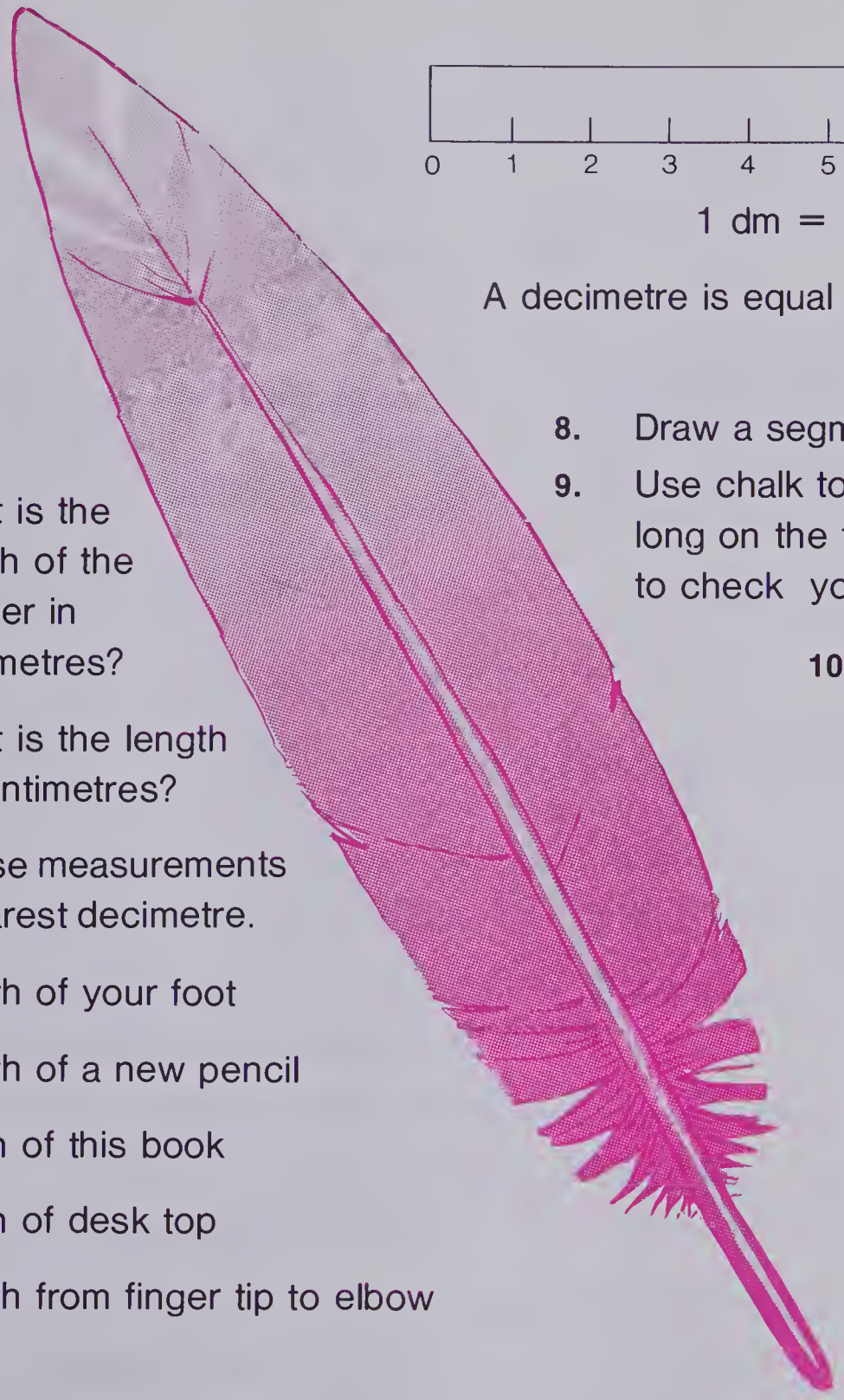
5.

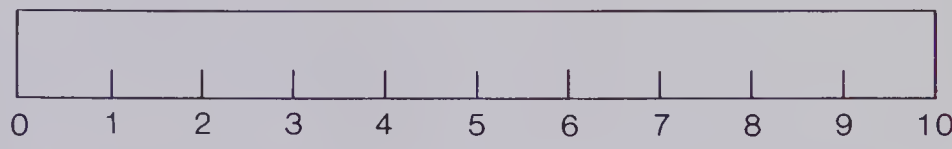


6.



The Decimetre (dm)





1 dm = 10 cm

A decimetre is equal to ten centimetres.

1. What is the length of the feather in decimetres?
2. What is the length in centimetres?

Write these measurements to the nearest decimetre.

3. length of your foot
4. length of a new pencil
5. width of this book
6. width of desk top
7. length from finger tip to elbow

8. Draw a segment 3 m long.
9. Use chalk to draw a segment 10 dm long on the floor. Get a friend to check your work.
10. Copy and complete.

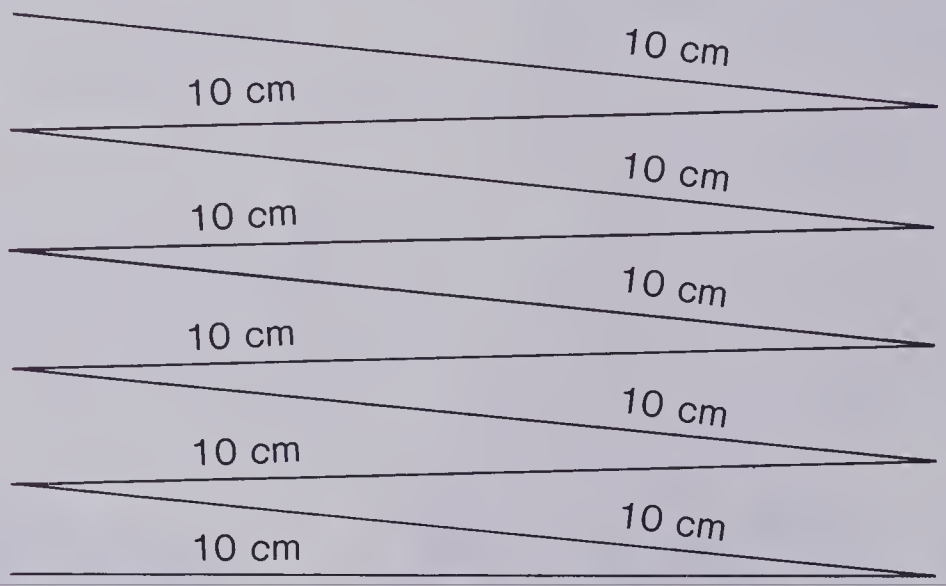
1 dm = ■ cm
2 dm = ■ cm
3 dm = ■ cm
4 dm = ■ cm
5 dm = ■ cm
6 dm = ■ cm
7 dm = ■ cm
8 dm = ■ cm
9 dm = ■ cm
10 dm = ■ cm

Make a Metre-String

10 cm

Measure and cut a length of string that is 10 of these strips long.

Hold the string like this.



10 cm
10 cm
10 cm
10 cm
10 cm
10 cm
10 cm
10 cm
10 cm
10 cm
100 cm

Your string is **one metre** long (1 m). 1 m = 100 cm

1. Is your arm span more than 1 m?
2. Are you taller than 1 m?
3. Are two of your steps about 1 m?
4. Find 5 objects about 1 m in size.

Guess whether each is more or less than 1 m. Then use your metre-string.

5. width of door
6. length of teacher's desk
7. width of one window
8. height of desk

How many metres? Guess. Then use your metre-string.

9. width of hall
10. width of classroom

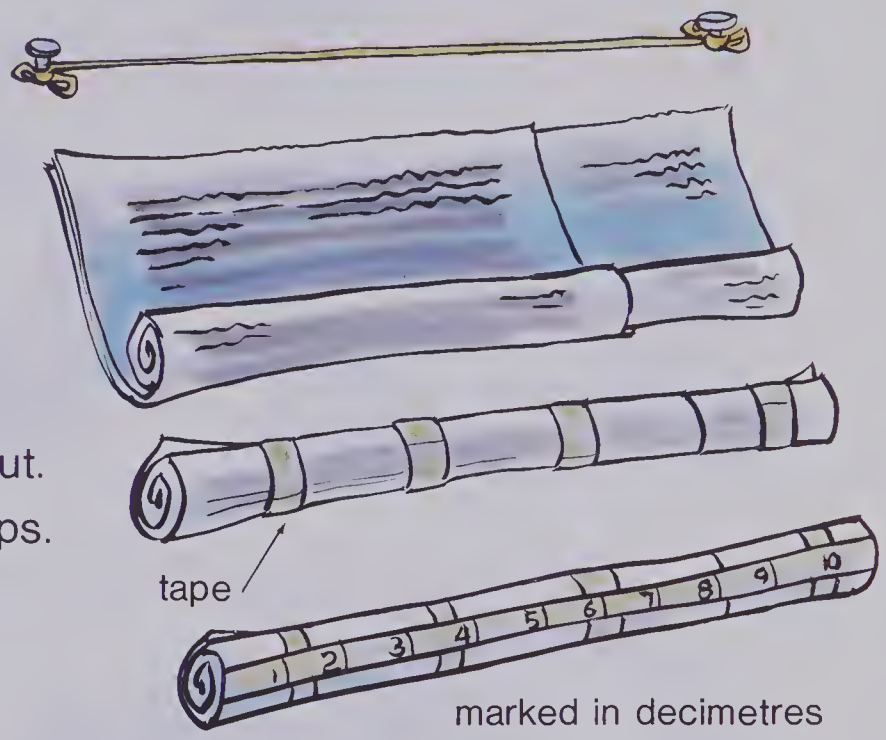
Centimetres or metres. Which would you use?

11. height of doll
12. length of hockey stick

Make a Metrestick

10 dm = 1 m
ten decimetres = one metre

1. Use the metre-string.
   (a) On the floor place two full sheets of newspaper so the metre-string fits.
   (b) Roll the newspaper to make a **metrestick**.
   (c) Tape.



2. (a) Make a decimetre strip. Cut out.
   (b) Cut out 9 more decimetre strips.
   (c) Place them end to end.
   (d) Glue to the metrestick.
   (e) Label.

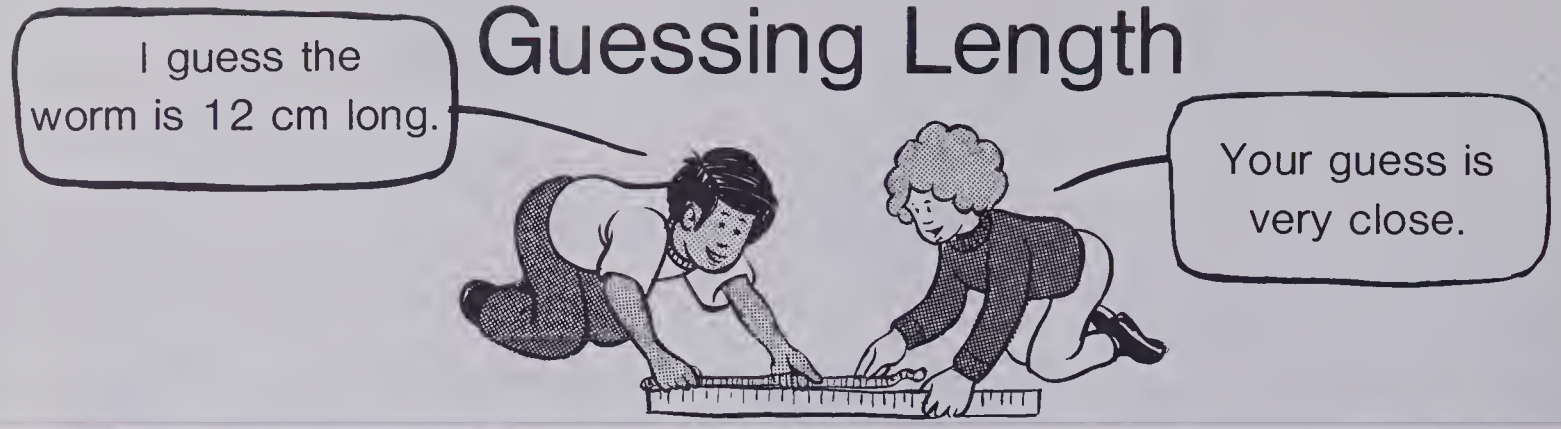
3. Copy and complete.

(a) 1 m = ■ dm	(b) 2 m = ■ dm	(c) 3 m = ■ dm
(d) 4 m = ■ dm	(e) 5 m = ■ dm	(f) 6 m = ■ dm
(g) 7 m = ■ dm	(h) 8 m = ■ dm	(i) 9 m = ■ dm

4. What is the measure of each in centimetres *or* metres?
   Which unit will you use — centimetre or metre?

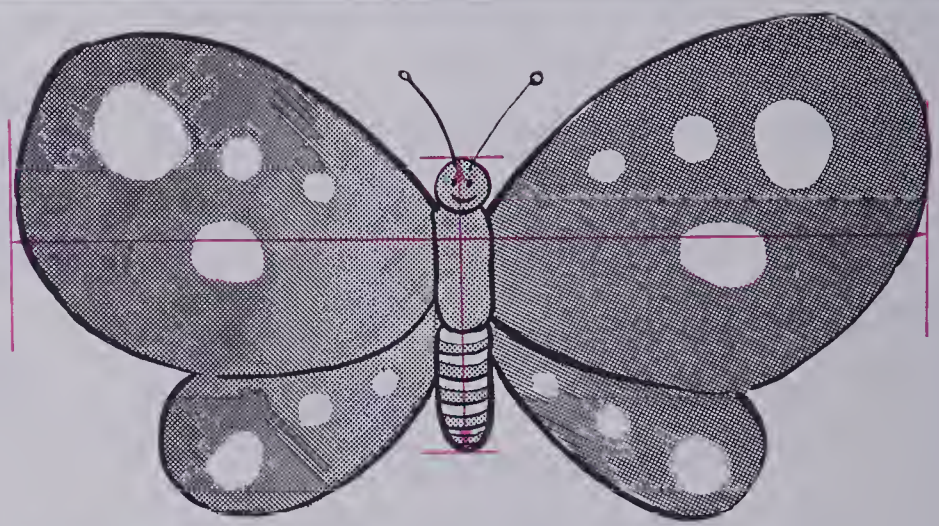
(a) width of this book	(b) height of your desk
(c) width of the classroom	(d) length of your foot
(e) height of a door	(f) length of the school

Guessing Length

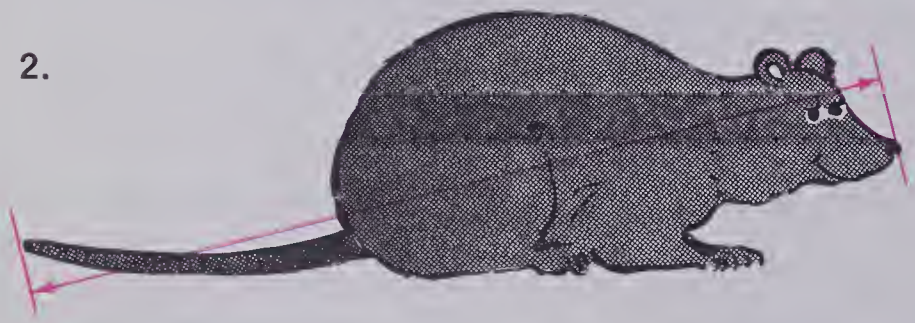


Guess the length. Record.
Use a centimetre ruler to check.

1. length of wings
   length of body



2.

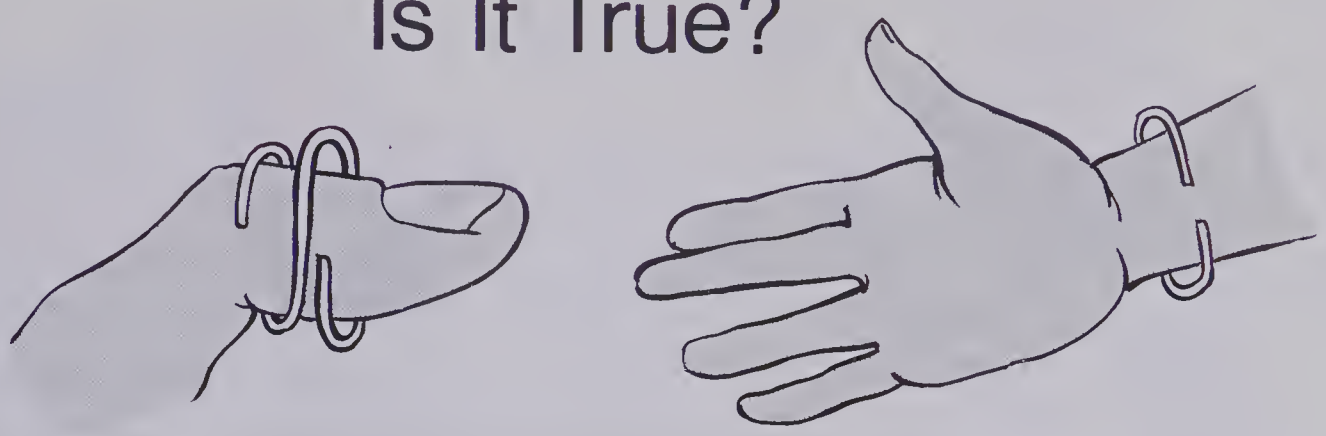


3.

Guess these. Record.
Use a metrestick to check.

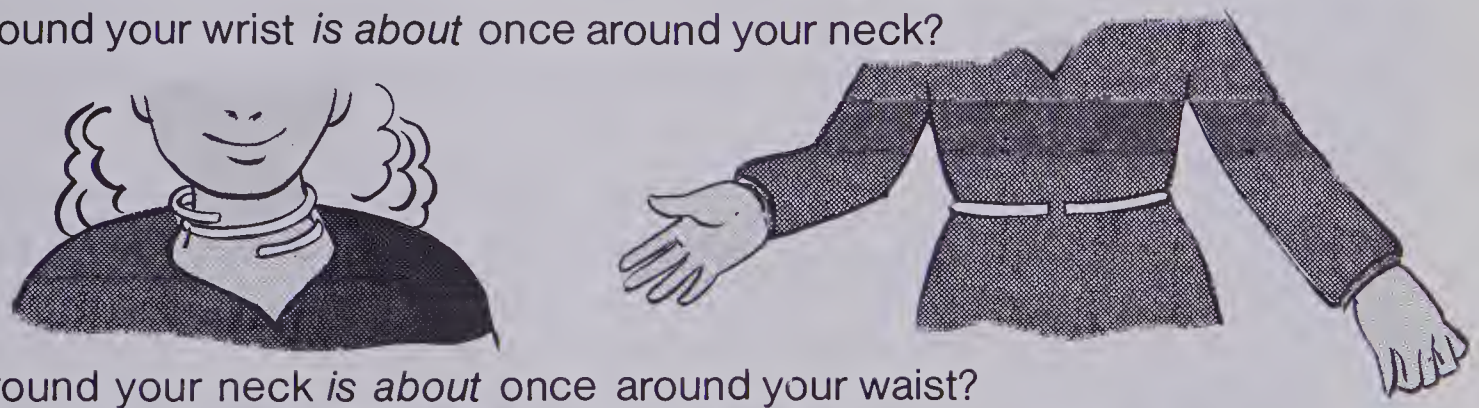
4. height of your desk
5. length of teacher's desk
6. your height
7. height of door
8. height of wall
9. width of chalkboard

Is It True?



Twice around your thumb *is about* once around your wrist?

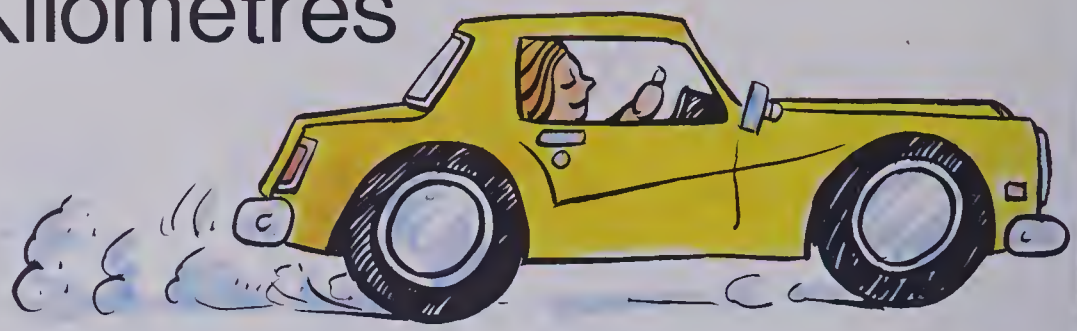
Twice around your wrist *is about* once around your neck?



Twice around your neck *is about* once around your waist?

Twice around your waist *is about* your height?

Kilometres



Distances travelled by car or bicycle are measured in **kilometres**.

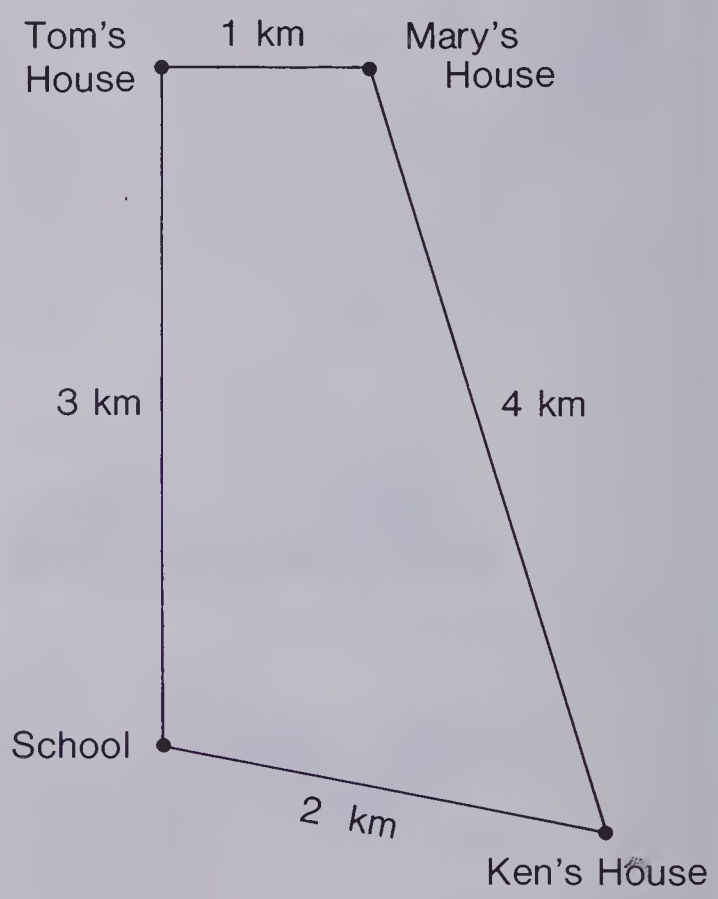
1000 m = 1 km	one thousand metres = one kilometre

1. Tom's father drove him to Mary's house, then to Ken's house.
How far did Tom's father drive?

2. Tom's mother drove to Mary's house, then to Ken's house, and then to school.
How far did she drive?

3. Mary wants to go to school.
(a) How far is it if she goes past Tom's house? past Ken's house?
(b) Which route is shorter? by how many kilometres?

4. Ken wants to go to Tom's house.
What is the shorter route?



5. How many metres in a kilometre? in 2 km?

6. How far is a kilometre?
To find out, walk around your school counting your steps to 200.
Do this 10 times. This distance is about 1 km.

The Carpenter

The carpenter uses millimetres and metres when measuring.

1. Hans measured two boards.
First board was 334 mm.
Second board was 676 mm.
How long were the two boards together?

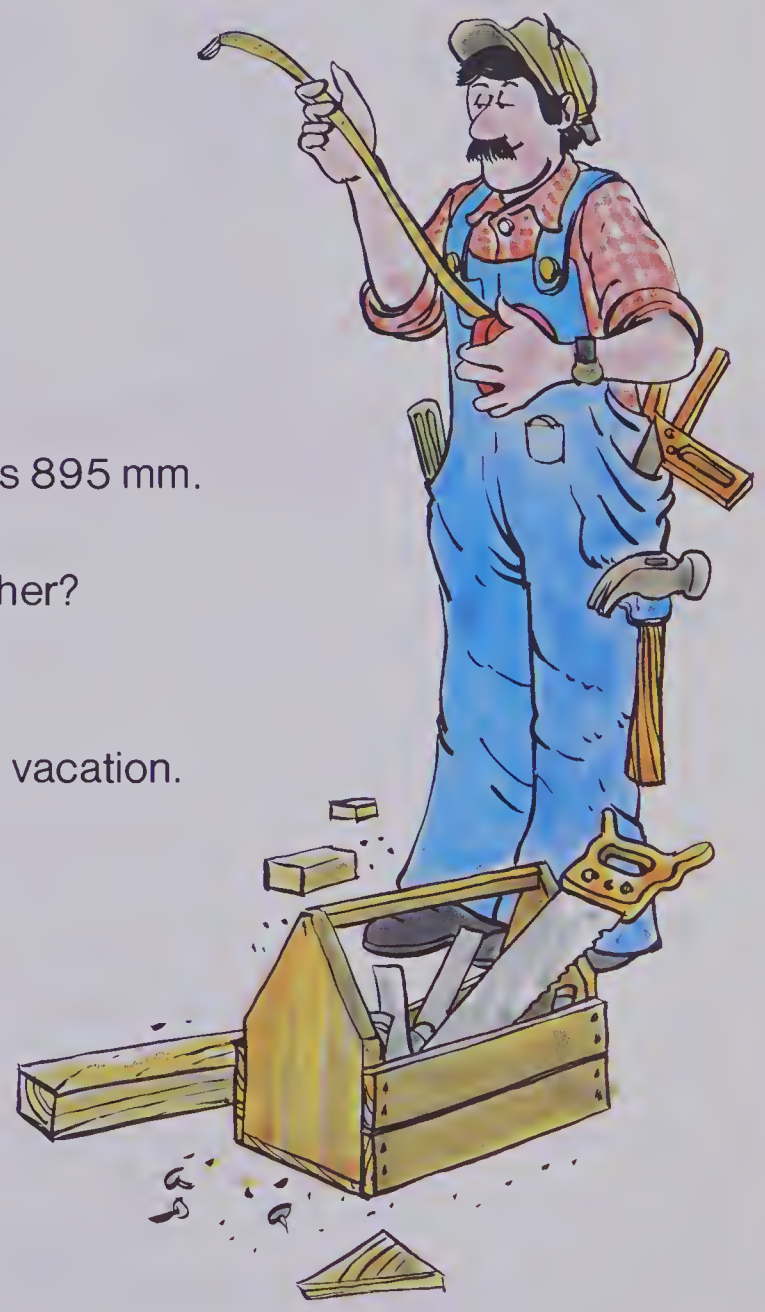
2. The first fence was 760 mm.
The second fence was 980 mm.
How long were the two fences together?

3. The eaves trough on one side of the house is 895 mm.
On the other side it is 775 mm.
How much eaves trough was there altogether?

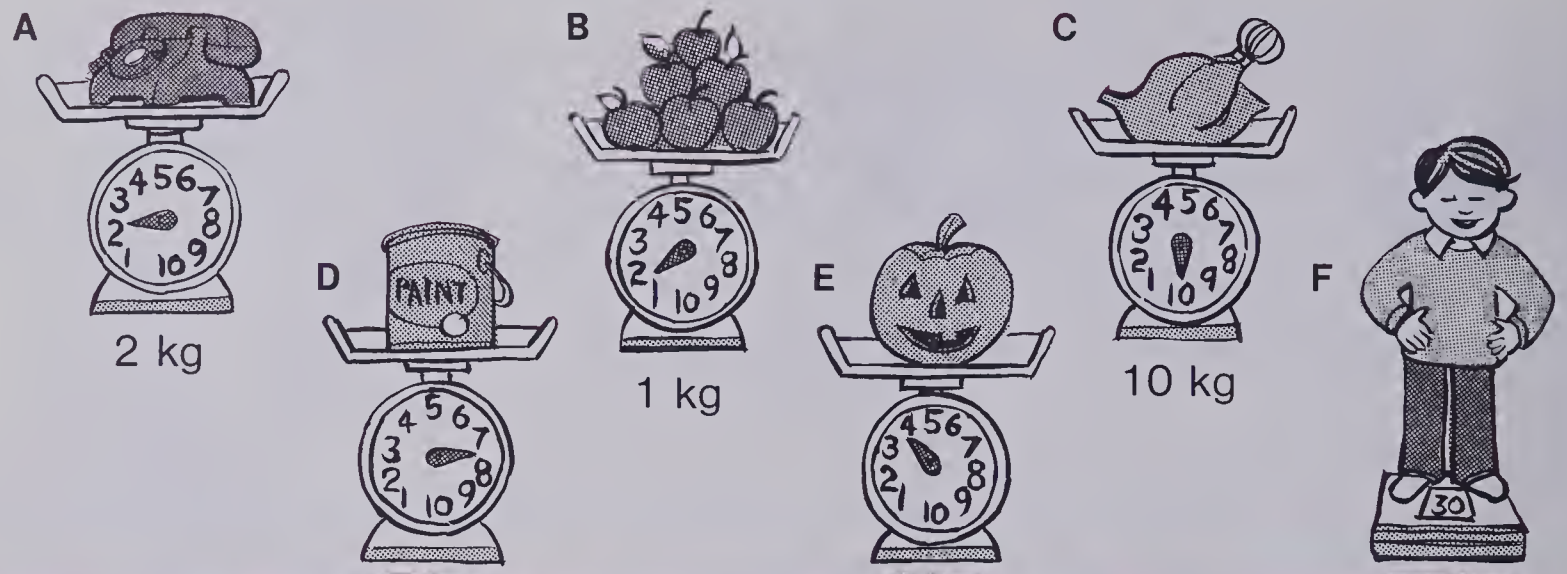
4. The distance to the work site is 790 km.
Hans travelled home and back on a weeks vacation.
How far did he travel?

5. Hans needed 1680 mm of trim.
He had 1560 mm.
Did he have enough?

★6. A carpenter needed 1200 m of siding.
One load that was delivered had 850 m.
The other load had 360 m.
Did he have enough?



The Kilogram



The kilogram (kg) is a unit used to measure the mass of an object.

What is the combined mass of the following?

1. apples and pail of paint
2. turkey and apples
3. phone, paint, and turkey
4. large pumpkin and boy

List the items that have the following combined masses.

5. 3 kg
6. 6 kg
7. 9 kg
8. 15 kg
9. 16 kg
10. 18 kg
11. 19 kg
12. 20 kg
13. 21 kg
14. 40 kg
15. 32 kg
16. 35 kg

How many different combinations of items have the following combined masses?

17. 12 kg
18. 13 kg
19. 14 kg
20. 41 kg

Can you combine items to make the following masses?

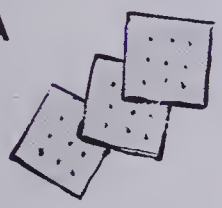
21. 25 kg
22. 50 kg
23. 55 kg
24. 28 kg

Using Grams

1 kg = 1000 g

one kilogram = one thousand grams

A



10 g

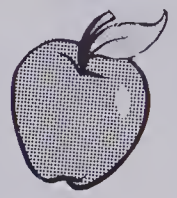
B

25 g

C

50 g

D



150 g

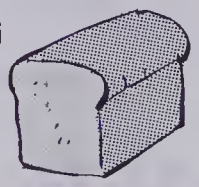
E

1000 g

F

5 g

G

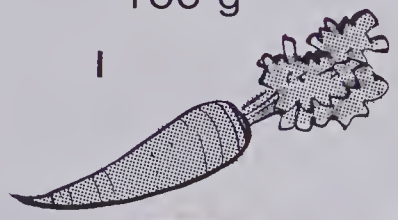


700 g

H

15 g

I



75 g

J

100 g

What is the combined mass of the following?

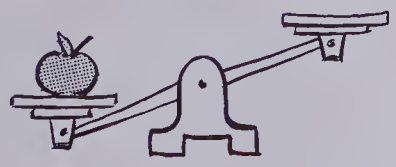
1. a cookie and an apple
2. a slice of bread and an egg
3. 3 soda crackers, an egg, and an orange
4. Which object has a mass of 1 kg?
5. Which 4 objects have a mass of 1 kg altogether?
6. Which 5 objects have a mass of 1 kg altogether?

Which objects have the following combined masses?

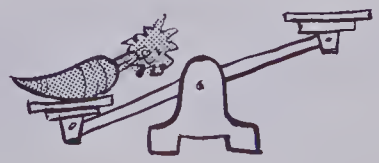
7. 140 g
8. 40 g
9. 60 g
10. 300 g
11. 400 g

What would you put on the scale pan to balance the following?

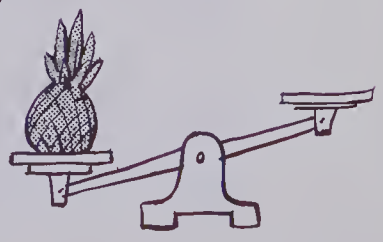
12.



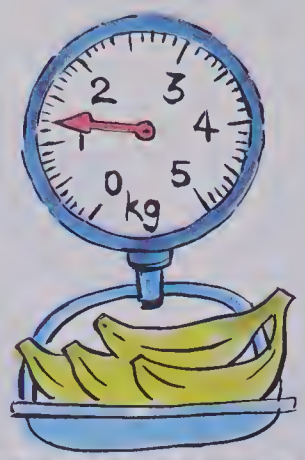
13.



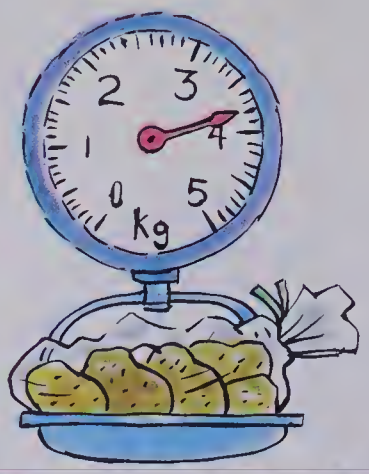
14.



Rounding

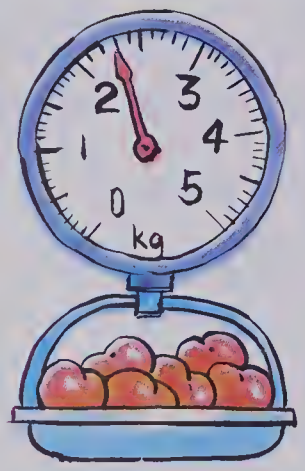


It is closer to 1 kg than to 2 kg.
The mass rounded to the nearest kilogram is 1 kg.

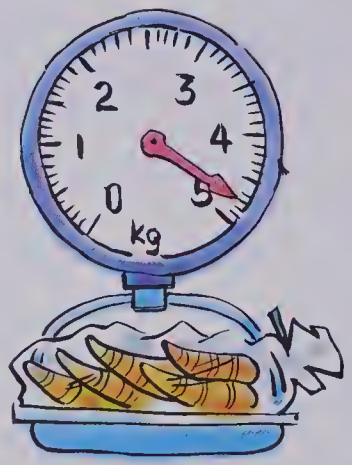


It is closer to 4 kg than to 3 kg.
The mass rounded to the nearest kilogram is 4 kg.

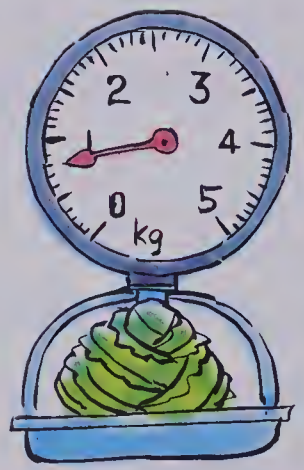
Read the scale. Which is closer?

1. 

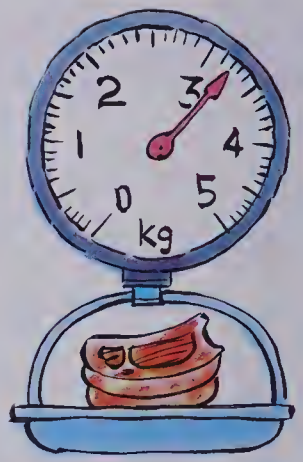
2 kg or 3 kg.

2. 

4 kg or 5 kg.

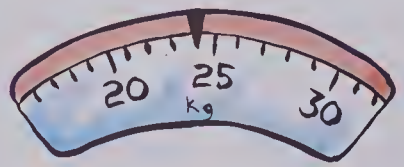
3. 

0 kg or 1 kg.

4. 

3 kg or 4 kg.

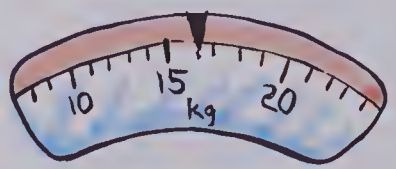
Write the mass rounded to the nearest 10 kg.

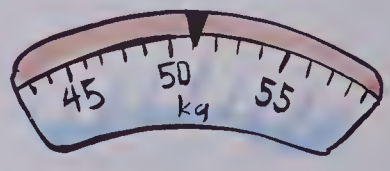
5. 

6.

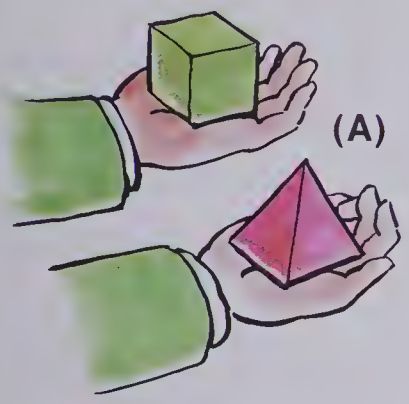
7.

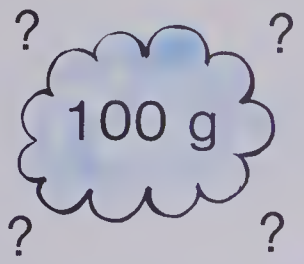
8.

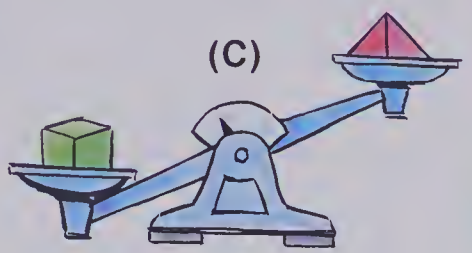
9. 

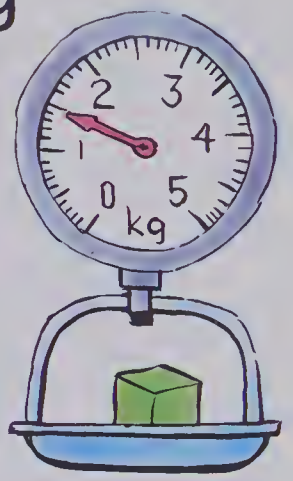
10. 

Guessing and Checking









(a) Guess which is heavier.

(b) Guess the mass of the heavier one.

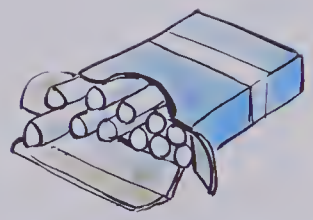
(c) Check.

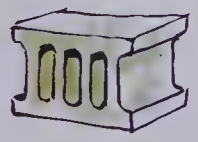
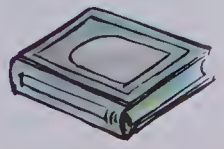
(d) Place it on a scale to check its mass.

Which object in each of these pairs is heavier?
Guess the mass of the heavier one in kilograms.
Measure its mass on a scale.

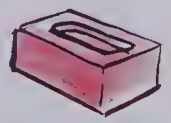
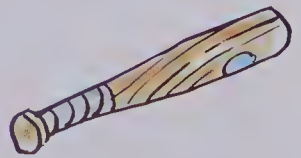
1. or

2.

or 

3.  or 

4. or

5.  or 

Chapter Test

Add.

1.	2.	3.	4.	5.
314	764	894	634	745
+ 852	+ 628	+ 683	+ 678	+ 698
____	____	____	____	____

6. Guess the length in centimetres.

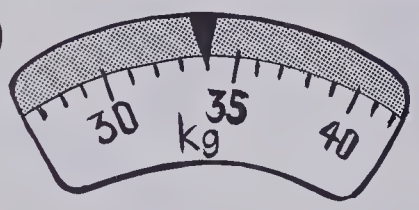
(a) _____ (b) _____

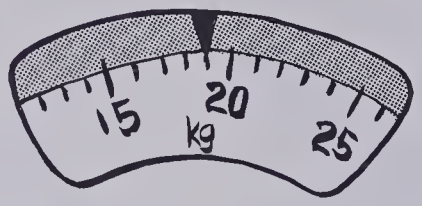
7. Use a ruler and measure to the nearest centimetre.

_____ _____

_____

8. Round each to the nearest 10 kg.

(a) 

(b) 

(c)

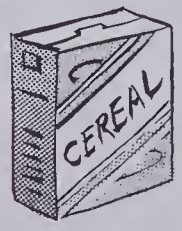
9. Round to the nearest kilogram.

(a)

(b)

(c)

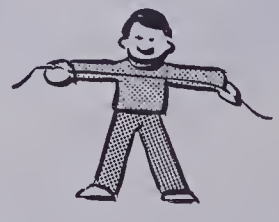
10. Which measurement is better?

(a) 

300 g or 300 kg

(b)

30 g or 30 kg

(c) 

1 m or 1 cm

Cumulative Review

Add.

1. 23 + 56 = ____

2. 3 + 4 + 6 = ____

3. 56 + 98 = ____

4. 357 + 968 = ____

5. 524 + 476 = ____

Subtract.

6. 64 - 31 = ____

7. 54 - 28 = ____

8. 347 - 116 = ____

9. 514 - 266 = ____

10. 700 - 622 = ____

Match.

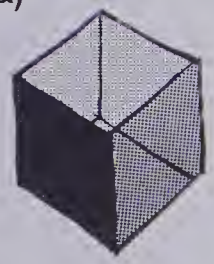
11. pyramid

12. cube

13. triangular prism

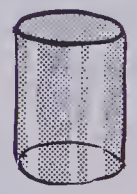
14. cylinder

(a)

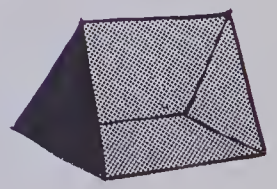


(b)

(c)



(d)



15. Jill measured a flower.
It was 137 cm tall on Monday.
On Tuesday it was 142 cm.
How much did it grow?

16. Peg planted 46 sweet peas on Monday.
On Tuesday she planted 58 more.
How many altogether did she plant?

17. Trace the shape.
Mark the line of symmetry.

Chapter 5

Fractions and Decimals

Concept of a Fraction

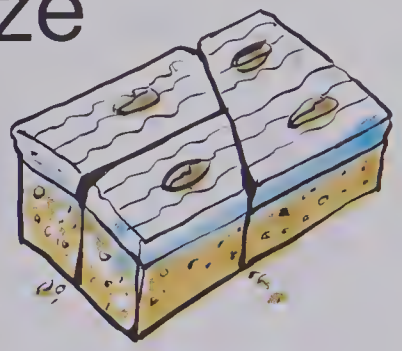
Decimal Notation

Measurement: Length and Capacity

Money

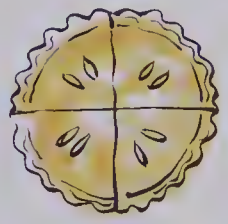
The Same Size

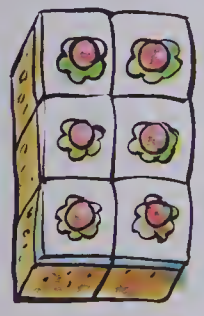
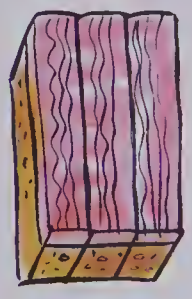
3 parts
all the same size.

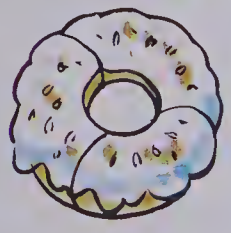


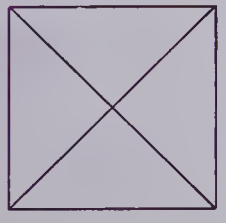
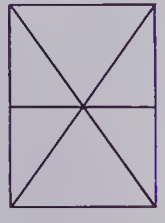
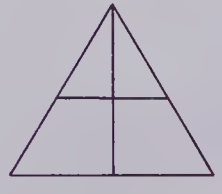
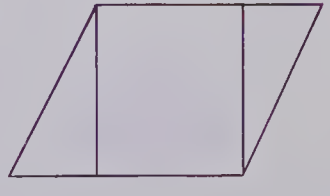
3 parts
not all the same size.

Which are cut into pieces of the same size?

1. (a) (b) (c)  (d)

2. (a)  (b)  (c) (d)

3. (a)  (b) (c) (d)

4. (a)  (b)  (c)  (d) 

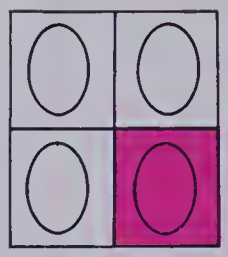
Fractions

Number of shaded parts → 1

Number of parts of same size → 2

$\frac{1}{2}$ is shaded.

One half is shaded.



Number of shaded parts → 1

Number of parts of same size → 4

$\frac{1}{4}$ is shaded.

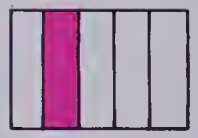
One fourth is shaded.

Write the fraction for each.

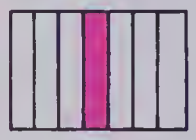
1.
one half

2.
one third

3.
one fourth

4. 
one fifth

5.
one sixth

6. 
one seventh

7.
one eighth

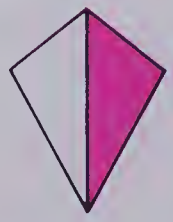
8.
one ninth

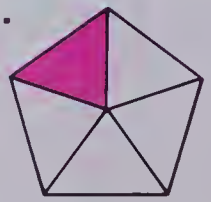
9.
one tenth

Write the fraction for the red parts.
Then write the word for each fraction.

10.

11.

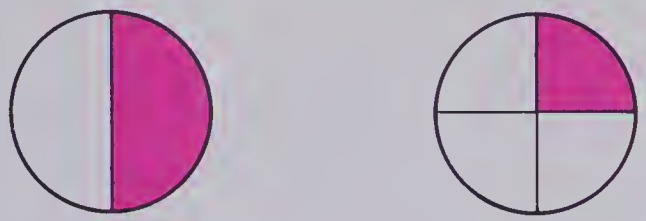
12. 

13. 

14.

Comparing Fractions

>	<
is greater than	is less than



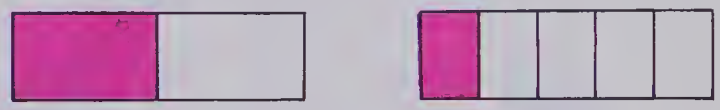
$$\frac{1}{2} > \frac{1}{4}$$

1. Which is greater?

$\frac{1}{2}$ or $\frac{1}{3}$

2. Compare. Use > or < .

(a) $\frac{1}{2} \bullet \frac{1}{5}$ (b) $\frac{1}{5} \bullet \frac{1}{2}$

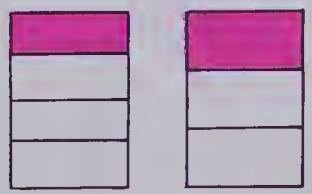


3. Compare. Use > or < .

(a) $\frac{1}{3} \bullet \frac{1}{2}$

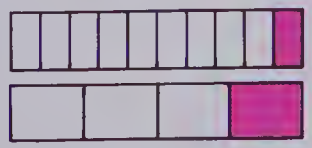
(b) $\frac{1}{2} \bullet \frac{1}{5}$

(c) $\frac{1}{4} \bullet \frac{1}{3}$



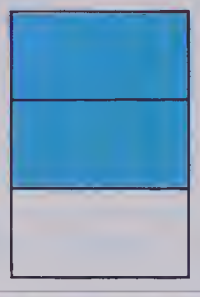
(d) $\frac{1}{3} \bullet \frac{1}{10}$

(e) $\frac{1}{10} \bullet \frac{1}{4}$



(f) $\frac{1}{2} \bullet \frac{1}{10}$

Parts of a Whole



Number of blue parts → $\frac{2}{3}$

Number of parts →

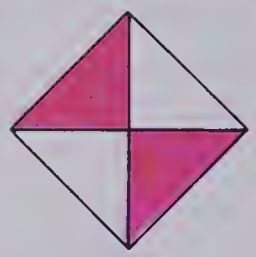
$\frac{2}{3}$ is blue.

Two thirds is blue.

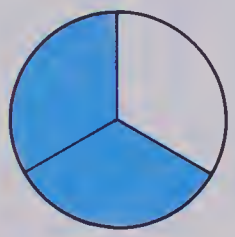
1. (a) How many red parts?

   (b) How many parts altogether?

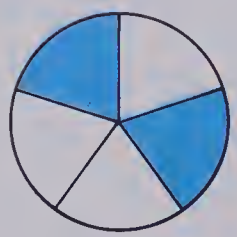
   (c) What fraction of the shape is red?

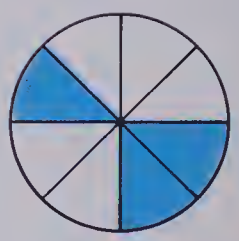


Write a fraction for the coloured part in each.

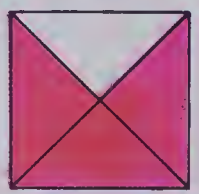
2. 

3.

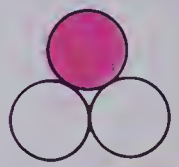
4. 

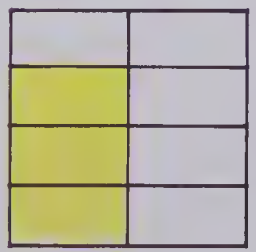
5. 

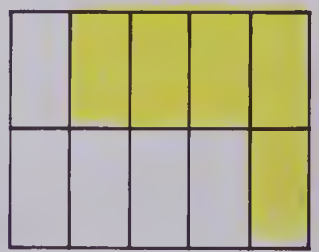
6.

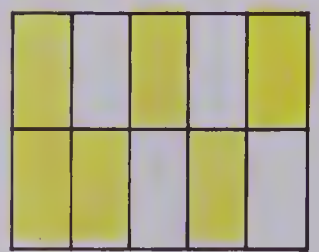
7. 

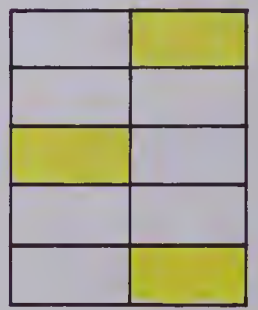
8.

9. 

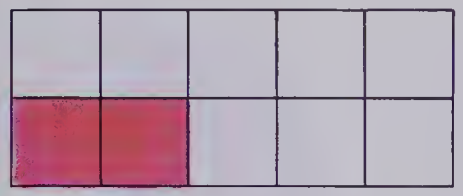
10. 

11. 

12. 

13. 

Tenths



Number of parts → 10

Two parts → two tenths

$\frac{2}{10}$

Number of parts → 10

Four parts → four tenths

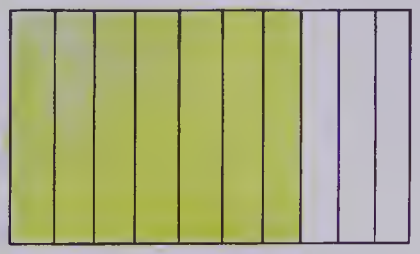
$\frac{4}{10}$

1. Write a fraction for the blue part.
Write the word name.

2. (a) Write a fraction for the yellow part.
(b) Write a word name for each fraction.

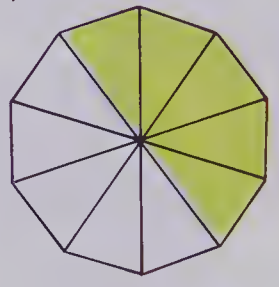
(i)

(ii)



(iii)

(iv)



3. Which shows $\frac{3}{10}$? $\frac{6}{10}$? $\frac{8}{10}$?

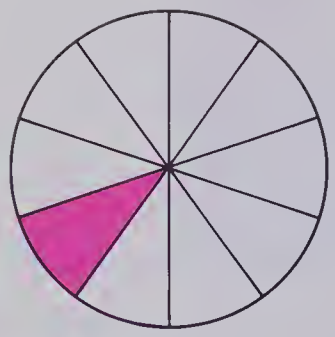
(a)

(b)

(c)

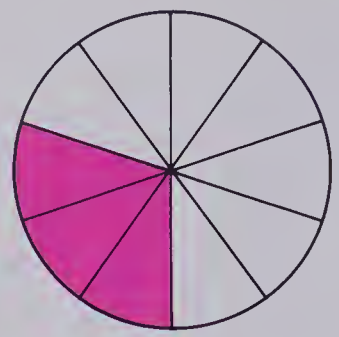
(d)

Renaming Tenths



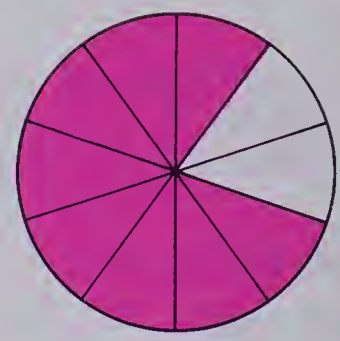
$\frac{1}{10}$ one tenth

0.1



$\frac{3}{10}$ three tenths

0.3



$\frac{8}{10}$ eight tenths

0.8

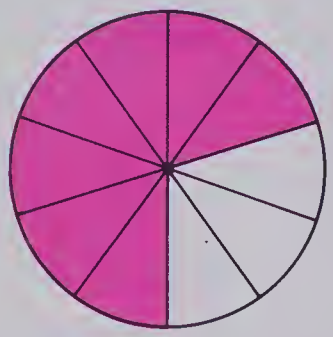
0.3 is read: three tenths
zero decimal three

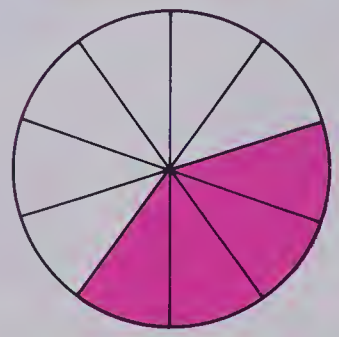
Write two names for each red part.

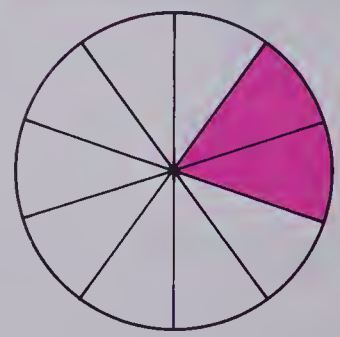
1.

2.

3.

4. 

5. 

6. 

7. Write.

(a) zero decimal one 0.1

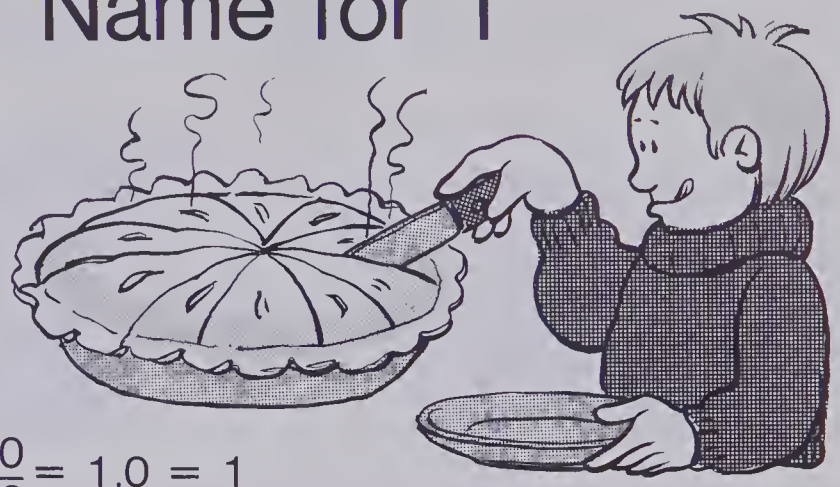
(b) zero decimal three

(c) zero decimal five

(d) zero decimal eight

Another Name for 1

Joe has 1 pie.
He cuts it into tenths.
He has $\frac{10}{10}$.
He has 1.0.



$\frac{10}{10} = 1.0 = 1$

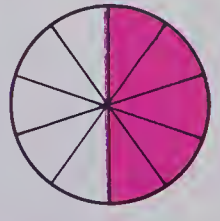
1. Write a decimal for each.

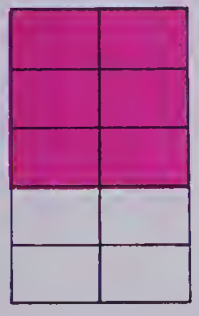
(a)

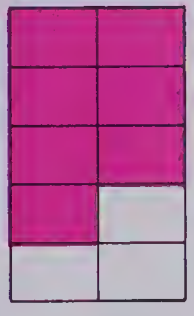
(b)

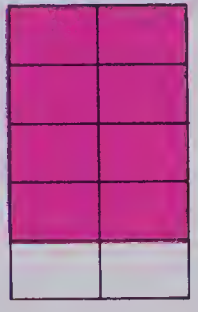
(c)

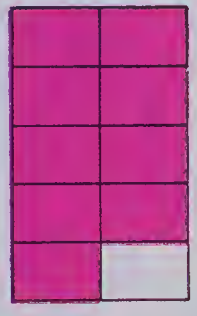
(d)

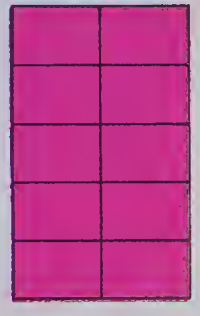
(e) 

(f) 

(g) 

(h) 

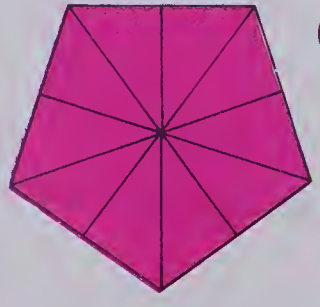
(i) 

(j) 

2. Write a decimal for the red parts.

(a)

(b)

(c) 

(d)

Decimals Greater Than One

13 pieces of pizza left over.

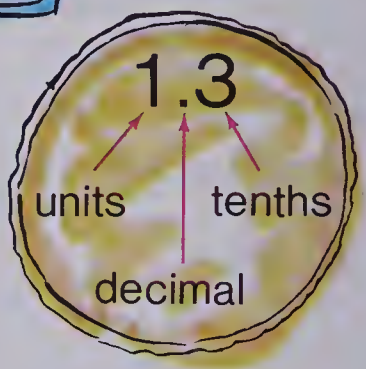
Each piece is 0.1.

They were put together.

13 tenths → 10 tenths + 3 tenths

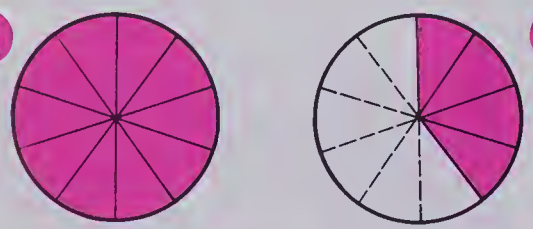
→ 1 whole + 3 tenths

→ 1.3



Write decimals.

1.

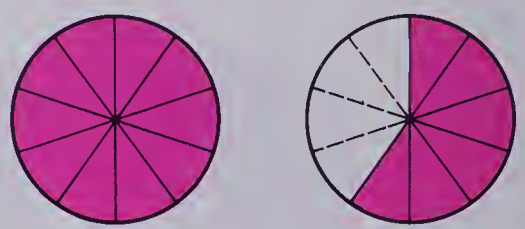


■ . ■

2.

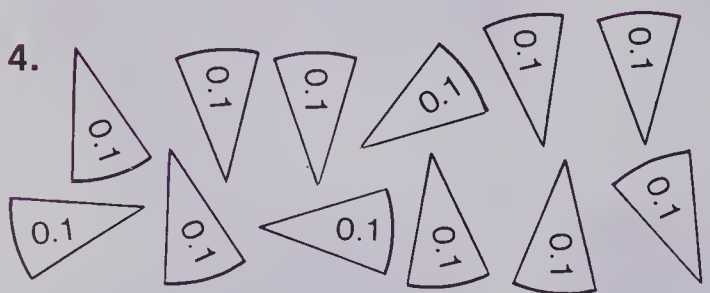
■ . ■

3.



■ . ■

4.

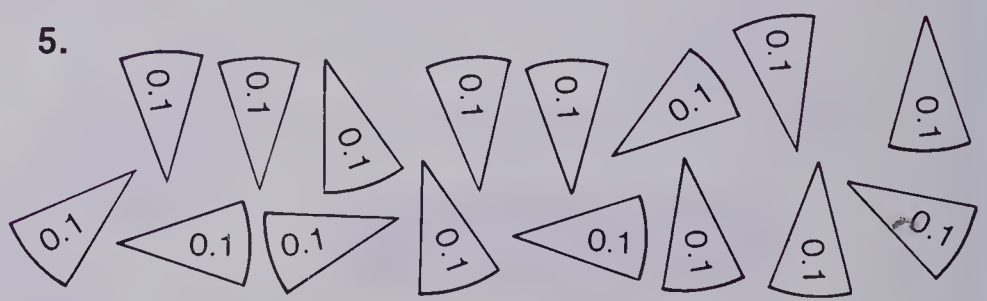


12 tenths = 10 tenths + ■ tenths

= ▲ whole + ■ tenths

= ▲ . ■

5.



♦ tenths = ▼ tenths + ■ tenths

= ▲ whole + ■ tenths

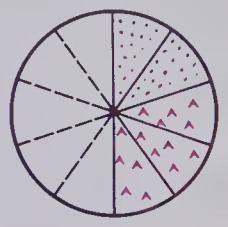
= ▲ . ■

Adding Decimals

Mark had a pizza cut into tenths.

He gave Mary 0.2.
He gave Jill 0.3.
How much did he give away?

$$\begin{array}{r} 0.2 \\ +\ 0.3 \\ \hline 0.5 \end{array}$$



He gave 0.5 away.

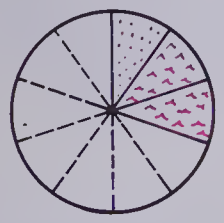
Adding decimals is like adding whole numbers.

1. George and Mary ate pie.

George ate 0.1.

Mary ate 0.2.

How much did they eat altogether?



$$\begin{array}{r} 0.1 \\ +\ 0.2 \\ \hline \blacksquare \end{array}$$

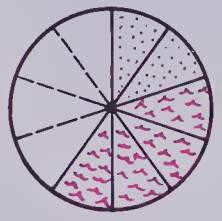
They ate 0.3 of the pie.

2. Jill and Harry ate pizza.

Jill ate 0.2.

Harry ate 0.4.

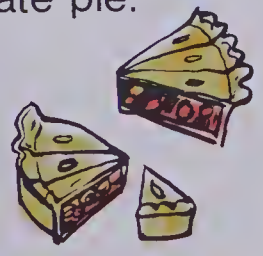
How much altogether?



$$\begin{array}{r} 0.2 \\ +\ 0.4 \\ \hline \end{array}$$

3. Harriet and Bill ate pie.

Harriet ate 0.3.
Bill ate 0.4.



$$\begin{array}{r} 0.3 \\ +\ 0.4 \\ \hline \end{array}$$

How much altogether?

4. Add.

(a) $\begin{array}{r} 0.1 \\ +\ 0.2 \\ \hline \end{array}$ (b) $\begin{array}{r} 0.6 \\ +\ 0.2 \\ \hline \end{array}$ (c) $\begin{array}{r} 0.3 \\ +\ 0.5 \\ \hline \end{array}$ (d) $\begin{array}{r} 0.7 \\ +\ 0.2 \\ \hline \end{array}$

Subtracting Decimals

Mark had 0.8 of a pie.

He ate 0.2 of the pie.

How much is left?

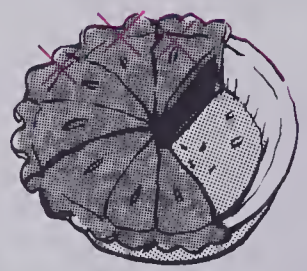
$$\begin{array}{r} 0.8 \\ -\ 0.2 \\ \hline 0.6 \end{array}$$

0.6 of the pie is left.

Subtracting decimals is like subtracting whole numbers.

1. Liz had 0.7 of a pie.
She ate 0.3 of the pie.
How much is left?

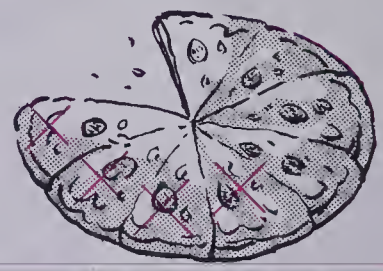
$$\begin{array}{r} 0.7 \\ -\ 0.3 \\ \hline 0.\blacksquare \end{array}$$



▲ of the pie is left.

2. Marge had 0.8 of a pizza.
She ate 0.4 of the pizza.
How much is left?

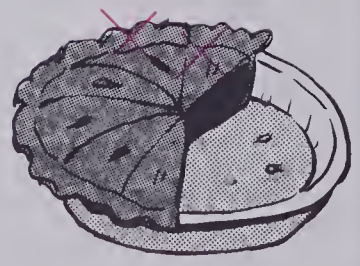
$$\begin{array}{r} 0.8 \\ -\ 0.4 \\ \hline 0.\blacksquare \end{array}$$



▲ of the pizza is left.

3. Bill had 0.6 of a pie.
He ate 0.2 of the pie.
How much is left?

$$\begin{array}{r} 0.6 \\ -\ 0.2 \\ \hline \end{array}$$



▲ of the pie is left.

4. Subtract.

(a) $\begin{array}{r} 0.6 \\ -\ 0.1 \\ \hline \end{array}$ (b) $\begin{array}{r} 0.5 \\ -\ 0.3 \\ \hline \end{array}$ (c) $\begin{array}{r} 0.7 \\ -\ 0.4 \\ \hline \end{array}$

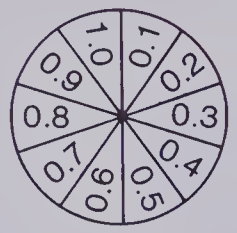
(d) $\begin{array}{r} 0.8 \\ -\ 0.6 \\ \hline \end{array}$ (e) $\begin{array}{r} 0.9 \\ -\ 0.5 \\ \hline \end{array}$ (f) $\begin{array}{r} 0.8 \\ -\ 0.5 \\ \hline \end{array}$

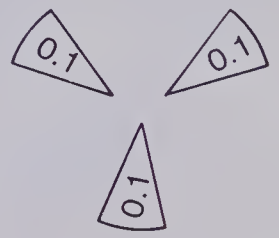
Activity

Use 3 paper plates each cut into 10 equal parts.

Mark several paper plates in tenths.

Fit tenths into the whole plates to show the sums.





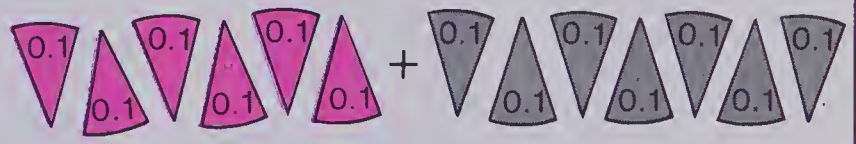
To add:

0.6 + 0.7 = ■

Use this method to add.

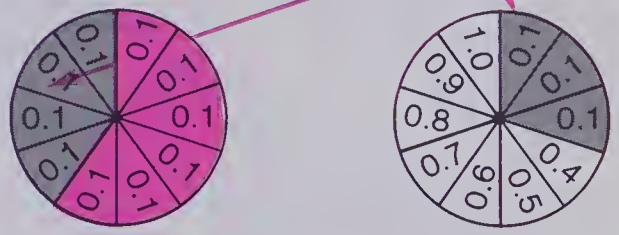
1. 0.8 + 0.9 = ■
2. 1.2 + 0.7 = ■
3. 0.6 + 0.8 = ■
4. 0.5 + 0.8 = ■
5. 0.5 + 1.4 = ■
6. 1.3 + 0.5 = ■

Start with tenths.



0.6 + 0.7

Fit in whole plates.



Read answer. → 1.3

To subtract:

1.6 - 0.4 = ■

Use this method to subtract.

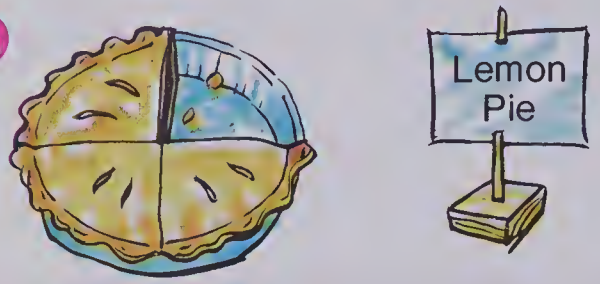
7. 1.8 - 0.5 = ■
8. 1.6 - 0.9 = ■
9. 1.4 - 0.7 = ■
10. 1.9 - 0.3 = ■
11. 1.8 - 1.3 = ■

Start | Take away | Leaves this

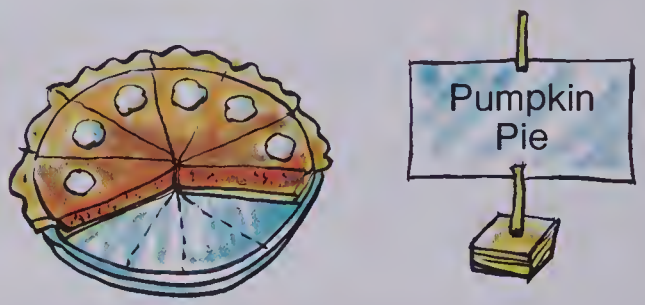
1.6 - 0.4 = 1.2

The Coffee Shop

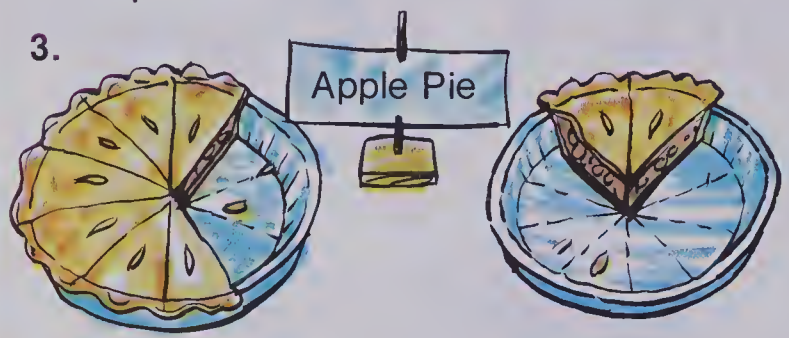
Sharon is helping her Father and Mother in their coffee shop.

1. 

Write a fraction for the pie left.

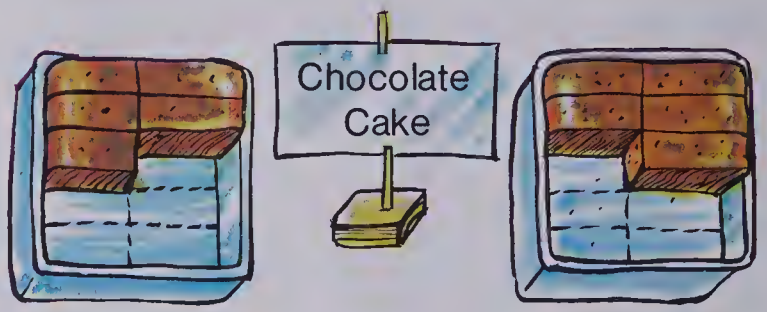
2. 

Write a decimal for the pie left.

3. 

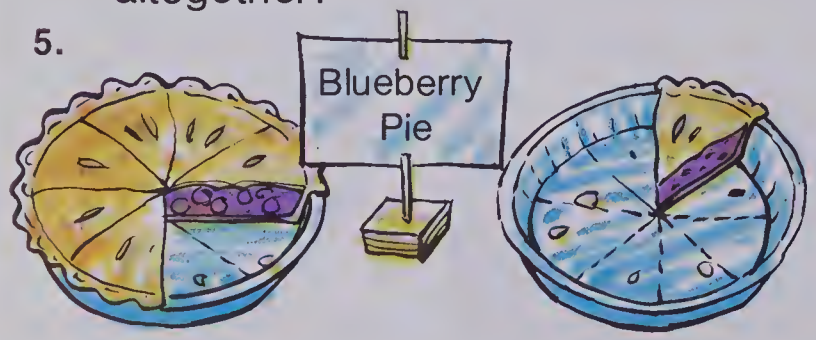
How many tenths of each apple pie is left?

How much apple pie is left altogether?

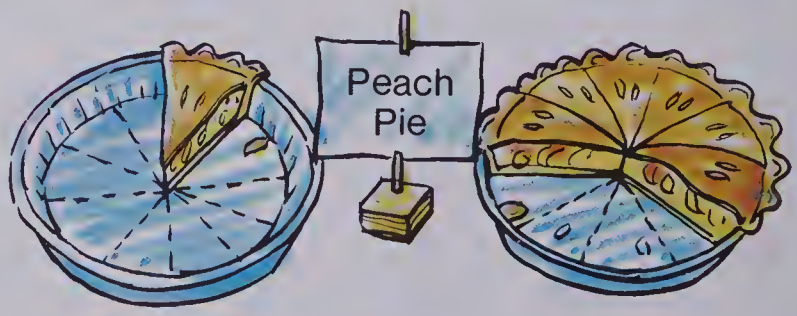
4. 

How many tenths of each chocolate cake is left?

How much chocolate cake is left altogether?

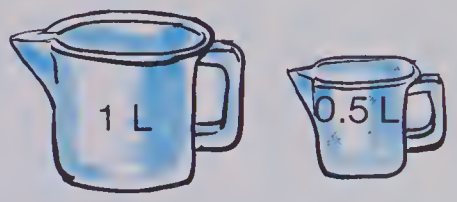
5. 

How much blueberry pie is left?

6. 

How much peach pie is left? Write the answer as a decimal.

Guessing Amounts of Liquids



Select a variety of containers.
Use 1 L and one half litre (0.5 L) containers.

1. Guess the amount the smallest container will hold.
   Check your answer. Were you close?

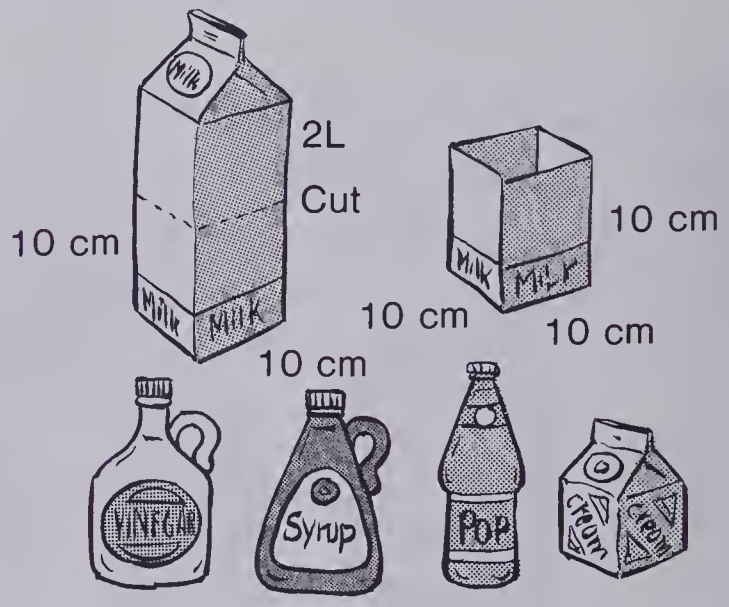
2. Guess and check the amount each of the other containers will hold.
   Work from the smallest to the largest.
   Did your guess improve?

Litres and Millilitres

1. Make a 1 L container. (**one litre**)

   (a) Use a 2 L milk carton.

   (b) Cut it off 10 cm from the bottom.

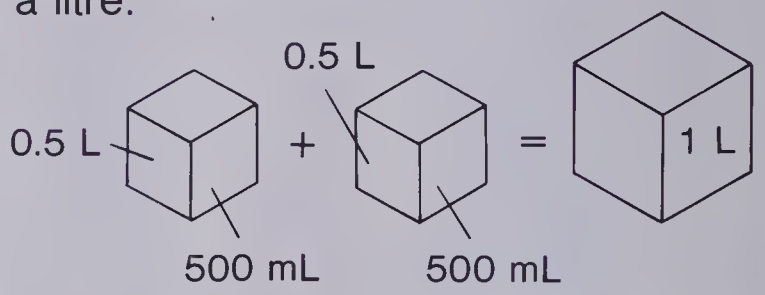


2. Use different containers.
   About how many litres does each hold?

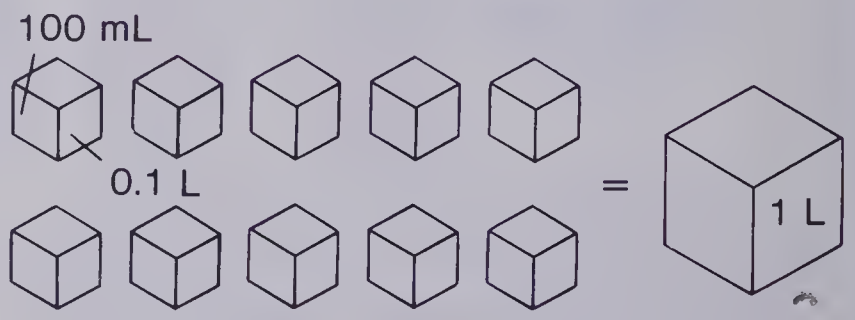
3. Find a container that holds about one half a litre.

   one litre = one thousand millilitres
   1 L = 1000 mL

   How many millilitres in one half litre?
   Label this container 500 mL on one side and 0.5 L on another side.

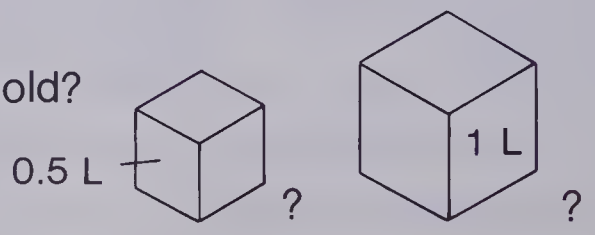


4. Find a container such that 10 of them fills one litre. Each is one tenth of a litre.
   Label this 0.1 L.
   This container holds 100 mL.



   (a) How many millilitres do 2 containers hold?

   (b) How many of these are needed to fill

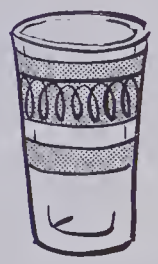


Birthday Party

1. John's birthday.
   9 friends are coming.
   How many altogether?

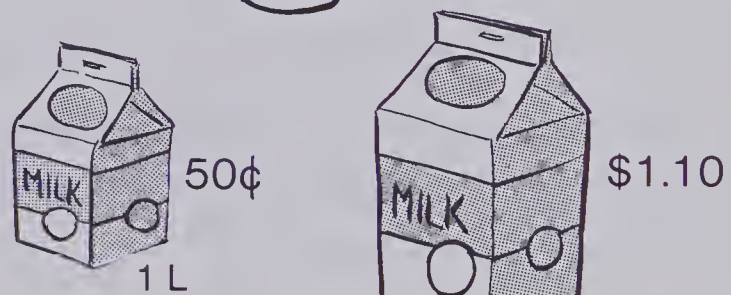
2. John and his friends
   like milk and cake.
   Each drinks 2 glasses.
   How many glasses altogether?

3. 1 L of milk is about 10 glasses.
   2 L of milk are how many glasses?

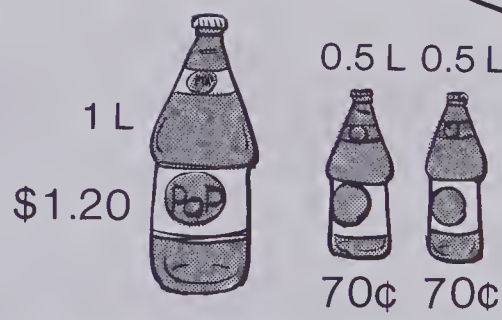


4. 1 glass is 100 mL.
   10 glasses are how many millilitres?

5. 2 L of milk are needed.
   Should John buy the large carton
   or 2 small cartons?

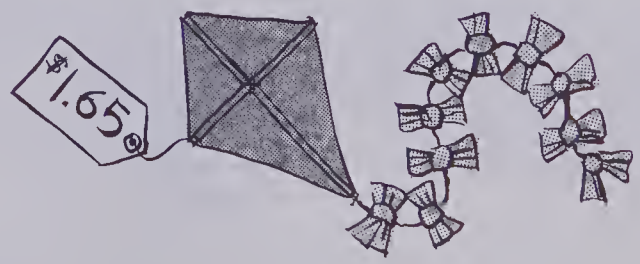


6. John and his father wanted
   1 L of pop.
   Do 2 small bottles hold the
   same as 1 large bottle?

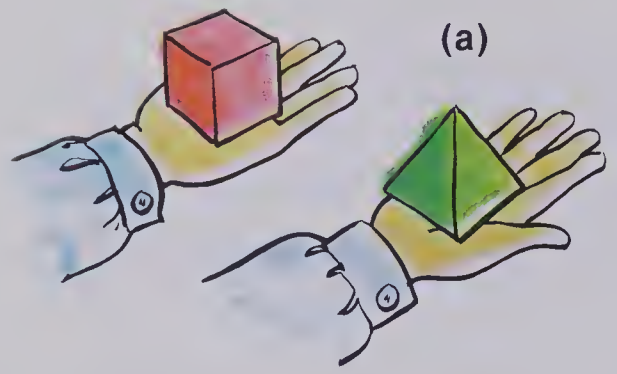


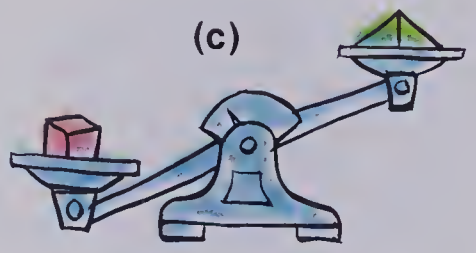
7. Which is the better buy, the large bottle or 2 small bottles?

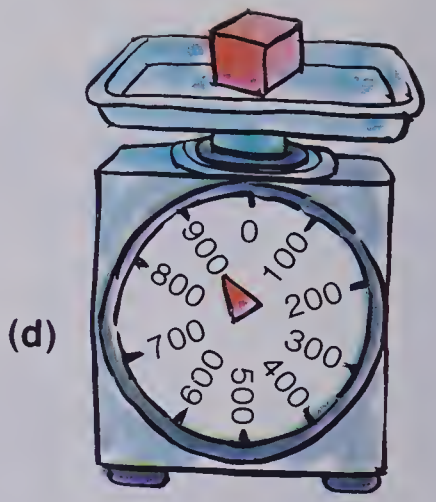
8. John's father bought a kite for John.
   He gave the clerk a two-dollar bill.
   How much change?



Guessing and Checking







(a) Guess which is lighter.

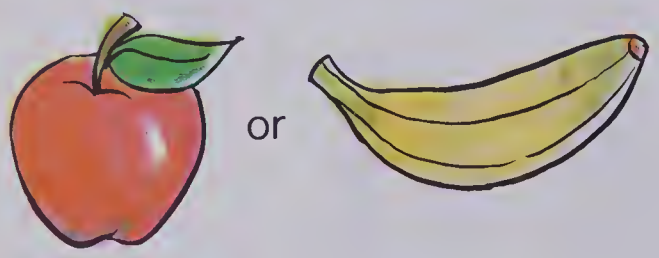
(b) Guess the mass of the lighter one.

(c) Check.

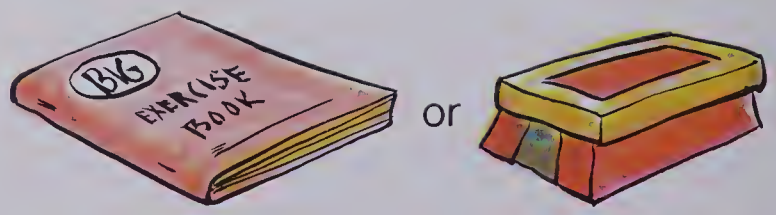
(d) Place it on a scale to check its mass.

Which object in each of these pairs is lighter?
Guess the mass of the lighter one in grams.
Measure its mass on a scale.

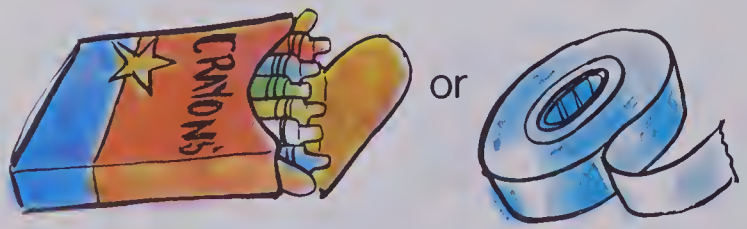
1.



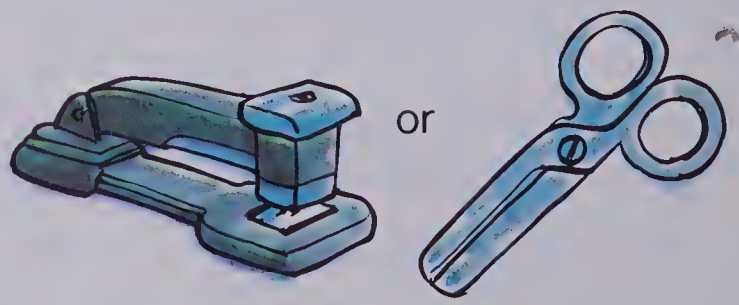
2.



3.



4.



Fruit Farmer

A fruit farm is called an orchard.

1. The owner, Mr. Wong, got 42 baskets of apples from one tree.
   He got 48 baskets from another tree.
   How many baskets altogether?

2. Mr. Wong made apple cider.
   He filled these jars.
   How much cider did he make?

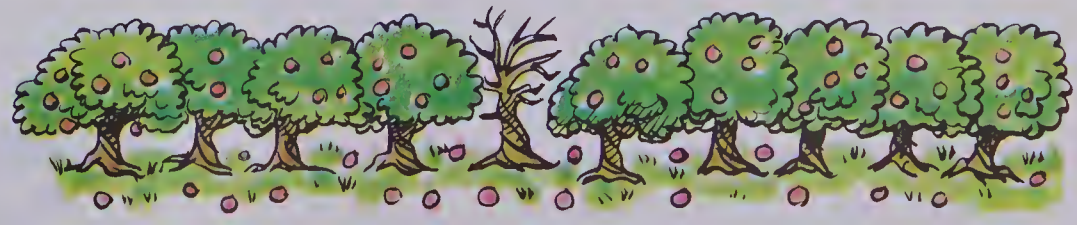
3. Mr. Wong divided his field as shown.
   What part of his field is planted for apples?

Apples	Cherries
Pears	Peaches

4. Mr. Wong measured two apples.
   One was 0.5 dm.
   The other was 0.4 dm.
   How big were they together?

5. How much larger was the first apple than the second?

6. Mr. Wong planted
   10 apple trees in a row.
   One tree died.
   What fraction of the trees died?



What Don't You Need?

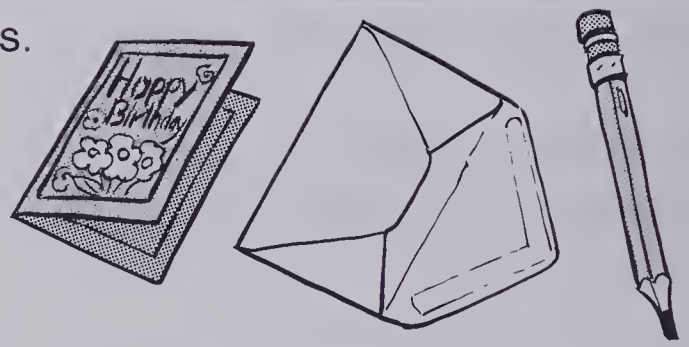
Sometimes you can have more information than you need to answer a question.

Solve: Length of red ribbon is 8 cm.
Length of blue ribbon is 21 cm.
The box is 20 cm long. ← *Extra*
What is the total length of ribbon?

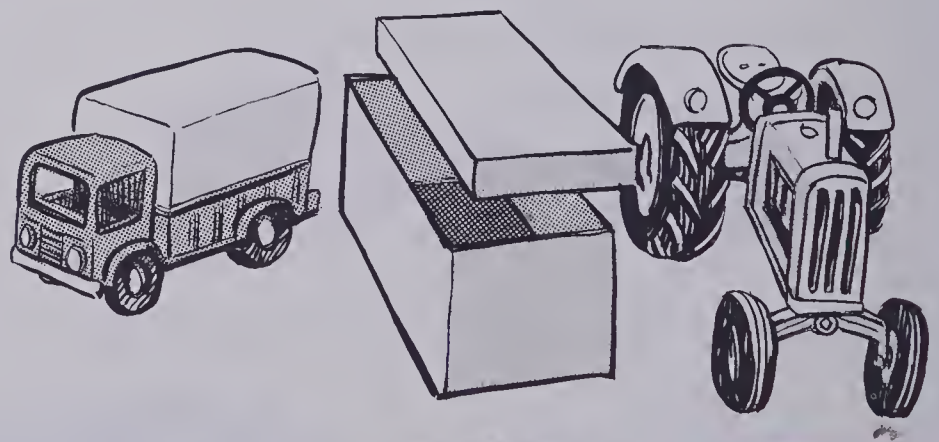
$$\begin{array}{r} 8 \text{ cm} \\ +\ 21 \text{ cm} \\ \hline 29 \text{ cm} \end{array}$$

The ribbon is 29 cm long.

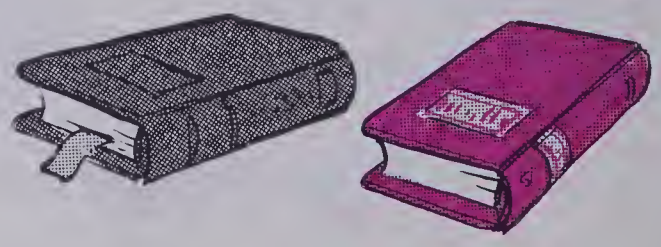
Copy the extra information. Solve the problems.



1. Envelope is 0.8 dm wide.
Pencil is 0.9 dm long.
Birthday card is 0.7 dm wide.
Will the birthday card fit in the envelope?



2. Toy truck is 0.6 m long.
The box is 0.8 m long.
The tractor is 0.9 m long.
Will the truck fit in the box?



3. Red book is 4.2 cm thick.
Black book is 3.9 cm thick.
Red book is 16 cm long.
How thick are the two books together?

Tune Up

Add.

1. 23 + 14	2. 42 + 37	3. 29 + 17	4. 54 + 39	5. 68 + 79
6. 314 + 123	7. 326 + 143	8. 562 + 204	9. 371 + 228	10. 414 + 344
11. 345 + 126	12. 876 + 343	13. 694 + 88	14. 345 + 455	15. 800 + 919
16. 375 + 243	17. 198 + 234	18. 208 + 419	19. 477 + 185	20. 791 + 109

Subtract.

21. 29 - 16	22. 66 - 30	23. 32 - 16	24. 90 - 36	25. 161 - 98
26. 246 - 112	27. 738 - 38	28. 688 - 436	29. 546 - 302	30. 889 - 256
31. 463 - 116	32. 725 - 281			
33. 780 -493	34. 700 - 129			

BRAINTICKLER

Who am I?

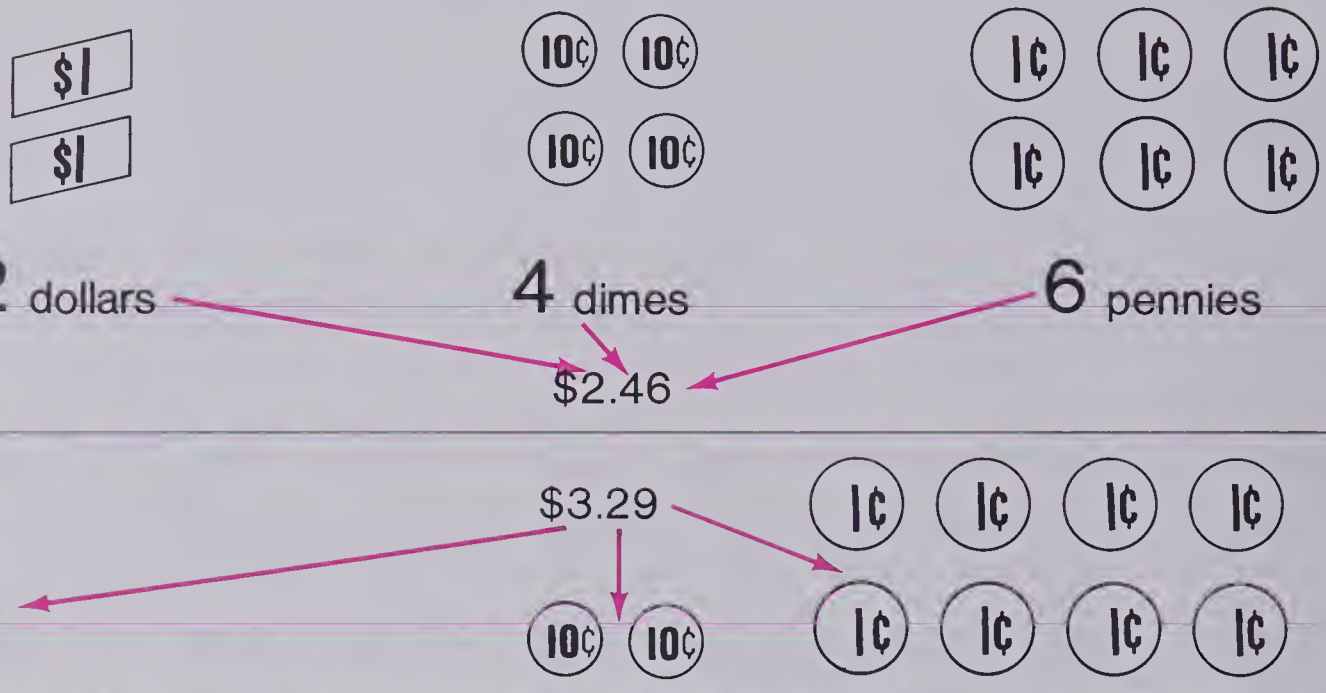
(a) I am a number 1 less than 1000.

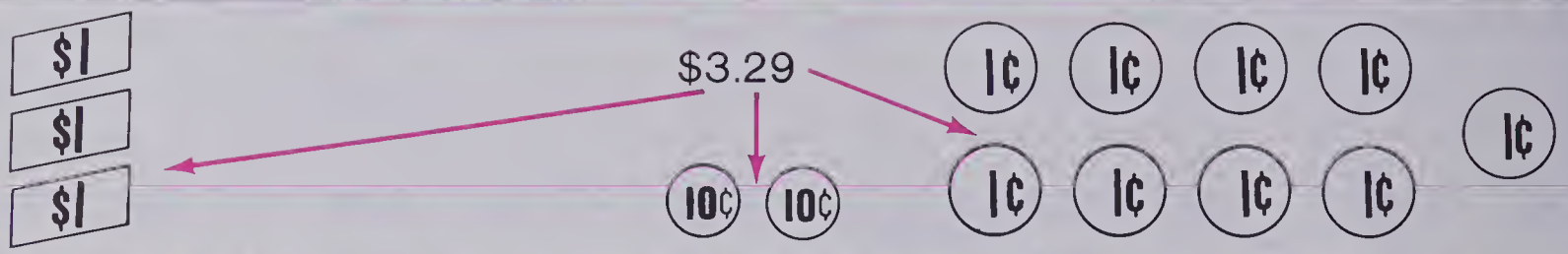
(b) I am a number 10 less than 1000.

(c) I am a number 100 less than 1000.

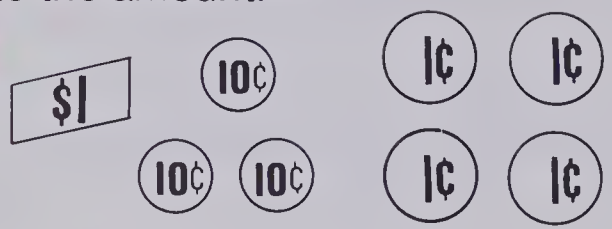
(d) I am a number 1000 less than 1000.

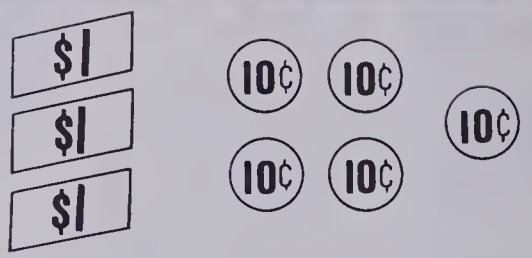
Dollars, Dimes, and Pennies

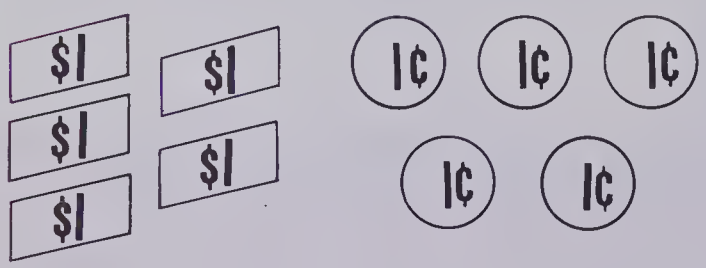


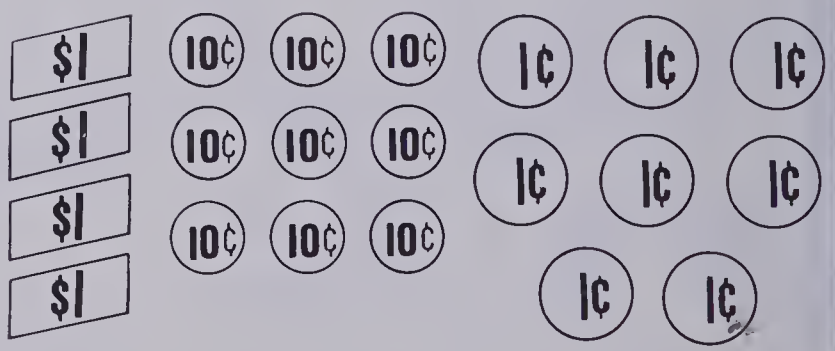


Write the amount.

1. 

2. 

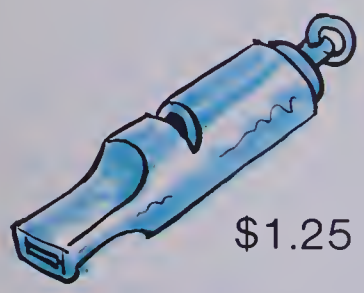
3. 

4. 

How many dollar bills, dimes, and pennies? Draw a picture to show.

5. $1.13 6. $2.47 7. $4.76 8. $5.98 9. $3.63

Adding Dollars and Cents



$1.25

$2.30

How much for these Guide items?

$1.25 → 125¢
+ $2.30 → + 230¢
$3.55 ↔ 355¢

Compare

Adding money is like adding whole numbers.

1. $1.15 + 1.24

2. $4.34 + 2.15

3. $2.53 + 1.32

4. $0.21 + 4.56

5. Bicycle lamp cost $4.15.
Batteries cost $1.84.
How much in all?

Solution:
$4.15
+ 1.84
$■.■9

6. $1.17 + 1.12

7. $2.32 + 1.65

8. $4.57 + 3.21

9. $7.22 + 1.66

10. $1.46 + 1.53

11. $3.01 + 0.95

12. $9.01 + 1.10

★ **13.** $14.00 + 38.75

14. Mark bought a compass for $2.30.
He bought a whistle for $1.25.
How much in all?

15. Rivka bought a puzzle for $1.25.
She bought a belt for $3.74.
How much altogether?

Subtracting Dollars and Cents

Millie had $4.65.
She paid $2.11 for a
Girl Guide Camp Book.
How much does she have left?

$4.65 → 465¢
- $2.11 → - 211¢
$2.54 ↔ 254¢
Compare

Subtracting money is like subtracting whole numbers.

1. $2.76 − 1.43

2. $5.39 − 3.17

3. $9.68 − 5.47

4. $6.86 − 4.55

5. Mark had $5.63.
He spent $1.32.
How much money is left?

Solution: $5.63 − 1.32 = $■.■1

6. $4.59 − 1.47

7. $5.39 − 2.29

8. $4.69 − 1.69

9. $7.11 − 4.00

10. $6.88 − 4.25

11. $18.89 − 5.49

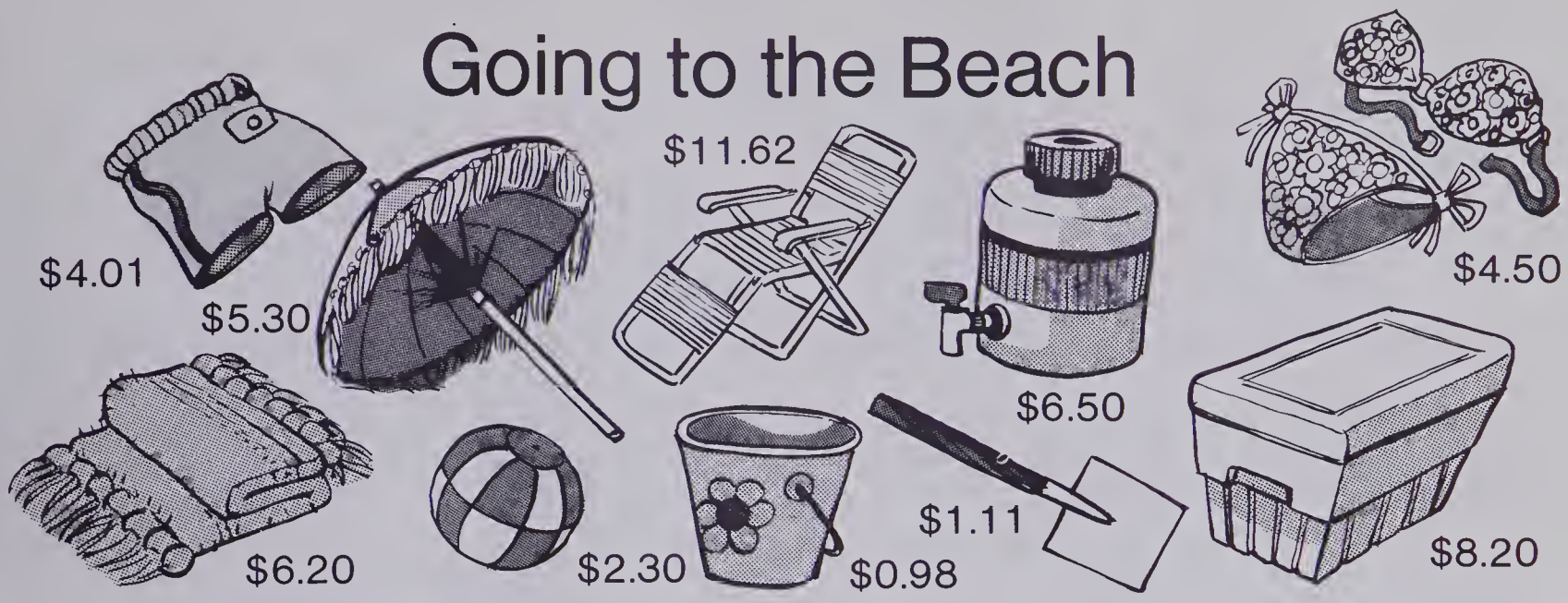
12. $12.99 − 4.88

★ 13. $42.99 − 18.99

14. Tom had $8.59 in the bank.
He took out $2.15.
How much is left in the bank?

15. Mary Lynne had $2.65 in her purse.
She spent $0.44.
How much is left in her purse?

Going to the Beach



Mike and Gloria planned a vacation to the beach.

1. Mike bought: trunks.
   a pail.
   Total cost?

2. Gloria bought: a swimming suit.
   a beach umbrella.
   Total cost?

3. Father bought: an ice chest.
   a thermos jug.
   Total cost?

4. Mother bought: a lounge chair.
   a towel.
   Total cost?

5. Gloria had $1.20.
   She wanted a ball.
   How much more does she need?

6. Mike had $0.63.
   He wanted a pail.
   How much more does he need?

7. How much more is the ice chest than the towel?

8. How much more is the chair than the umbrella?

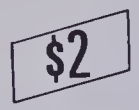
★ 9. Father bought a bathing suit, trunks, and umbrella.
   How much did he pay?

★ 10. What is the cost of a towel, a shovel, and a ball?

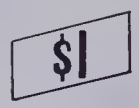
More Money

ten dollars $10.00

five dollars $5.00



two dollars $2.00



one dollar $1.00

half dollar
$0.50 50¢

quarter
$0.25 25¢

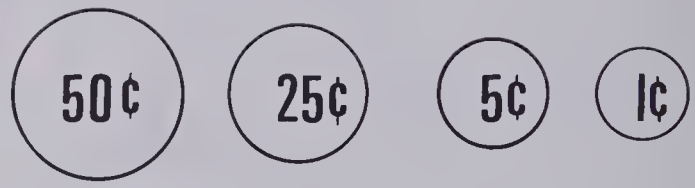
dime
$0.10 10¢

nickel
$0.05 5¢

penny
$0.01 1¢

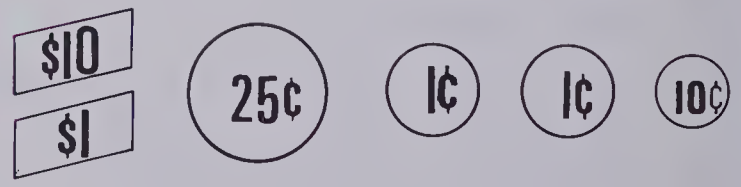
How many cents?

1.

2. 

How many dollars and cents?

3.

4. 

What bills and coins?

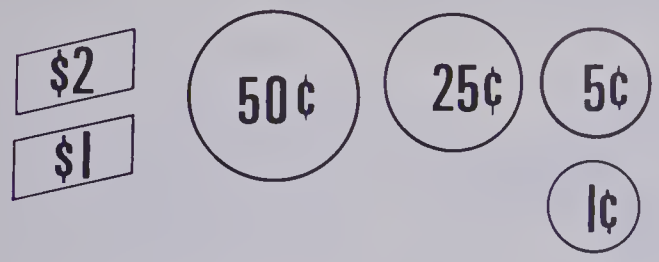
5. 45¢

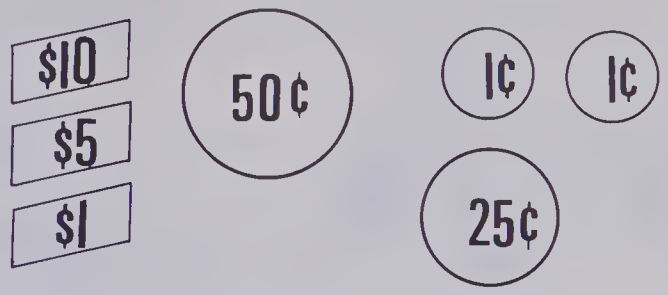
6. $1.15

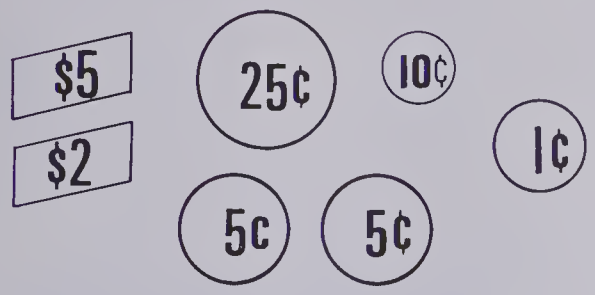
7. $5.26

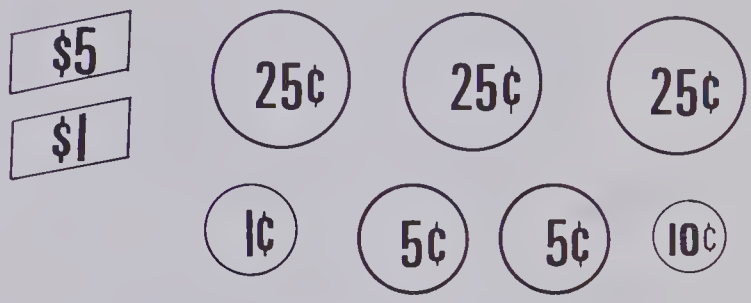
8. $2.36

How many dollars and cents?

9. 

10. 

11. 

12. 

What bills and coins? Give two answers for each.

13. $0.55

14. $3.36

15. $6.85

16. $11.30

17. $16.45

18. $7.30

Solve.

19. Sammy bought a swimming suit.
Cost: $4.13.
What bills and coins?

20. Mark has $7.55.
What bills and coins?

21. Evelyn has $17.39.
What bills and coins?

22. Georgina bought a beach ball.
She gave the clerk exactly $5.23.
What bills and coins did she use?

Unscramble these names of coins.

23. ruqaret

24. kiceln

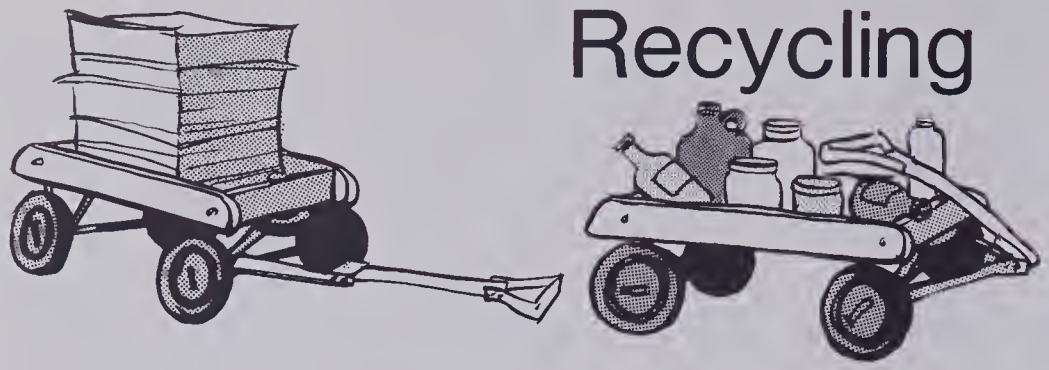
25. mide

26. nepny

BRAINTICKLER

Mr. and Mrs. Smith have six daughters.
Each daughter has a brother.
How many people are in the Smith family?

Recycling



Recycle
Your Bottles,
Newspapers, . . .

1. Lucille returned two boxes of wastepaper.
   One box sold for $1.35.
   The other sold for $2.14.
   How much altogether?

2. Roger sold bottles and cans.
   One large bottle for a quarter.
   One small bottle for a dime.
   One can for a nickel.
   How much altogether?

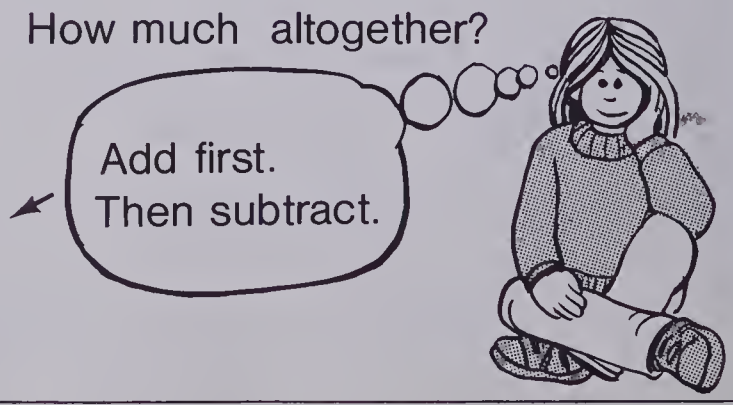
WE PAY MORE.	
Paper: $0.35 per bundle	
Bottles: large	— $0.25
small	— $0.10
Pop cans:	— $0.05
Car battery:	— $2.50

3. Margie collected one old car battery.
   She needed $3.75 for a doll.
   How much more money does she need?

4. Harry needed $8.55 for a game.
   He sold old newspapers worth $4.35.
   How much more money does he need?

5. Henry sold bottles and cans.
   2 large bottles.
   4 cans.
   How much altogether?

★ 6. Alma sold bottles worth $2.65.
   She sold old newspapers worth $3.12.
   She needs $8.78 for a ball glove.
   How much more money does she need?

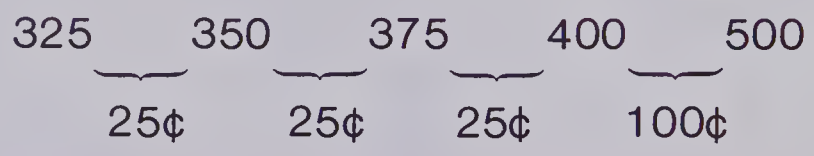


Counting Your Change

Cost of lunch kit: $3.25.
Marg gave the clerk $5.00.
Clerk gave Marg

Check:

Count:



Marg's change is correct.

To check change: Count from the sale to the amount paid.

Check the change. Is it correct?

1. Bought the book.
Gave clerk $1.00.
Change received:

$0.76

2. Bought toy car.
Gave clerk $5.00.
Change received:

$1.35

3. Bought a doll.
Gave clerk $5.00.
Change received:

$3.65

Making Change

Bought a comic book.
Paid $1.00.
Change?

Change

10¢ 10¢ 25¢

55 65 75 100

Amount of sale — Amount paid

The change is: 2 dimes and a quarter.

1. Count to 100 by 5's starting at (a) 10 (b) 35 (c) 55 (d) 75.
2. Count to 100 by 10's starting at (a) 10 (b) 30 (c) 70 (d) 80.
3. Count to 100 by 25's starting at (a) 25 (b) 50 (c) 75.

What change?

4. Pop: 35¢
   Gave: 50¢
   Count: 35 ____ 45 ____ 50
   Coins: ■ ■

5. Hot dog: 60¢
   Gave: one-dollar bill
   Count: 60 65 70 75 100
   Coins: ■ ■ ■ ■

6. Whistle: 85¢
   Gave: one-dollar bill
   Count: 85 ____ 90 ____ 100
   Coins: ■ ■

7. Candy: 43¢
   Gave: one-dollar bill
   Count: 43 44 45 50 75 100
   Coins: ■ ■ ■ ■ ■

8. Badge: 49¢
   Gave: $1.00

9. Kite: 69¢
   Gave: $1.00

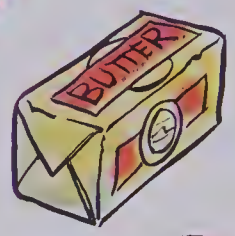
★ 10. Doll's dress: 71¢
   Gave: $2.00

At the Supermarket

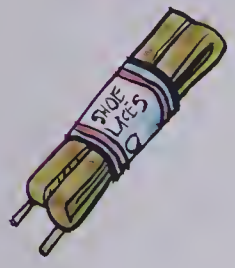
Name the unit used to measure each.

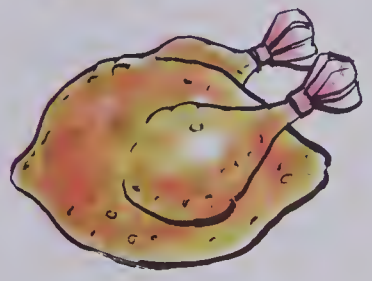
1.

2.

3. 

4.

5. 

6. 

7.

8.

Choose the correct unit.

9.

400 kg or 400 g

10.

60 cm or 60 m

11.

500 mL or 500 L

12.

4 g or 4 kg

13.

4 L or 4 mL

14.

1.5 cm or 1.5 m

15. Which is the better buy?

1 L

$1.35

0.5 L

70¢

0.5 L

70¢

Chapter Test

1. Write a fraction.

■ is red.

2. Copy and complete using > or < .

(a) ●

(b) 0.2 ● 0.6

3. How many dollars, dimes, and pennies in $2.64?

Write as decimals.

4. 1 whole and 3 tenths

5. 1 whole and 8 tenths

6. 0.1 + 0.6	**7.** 0.5 + 0.4	**8.** $0.46 + 0.21	**9.** $0.45 + 0.21	**10.** $1.45 + 4.32
11. 0.8 - 0.1	**12.** 0.9 - 0.7	**13.** $0.56 - 0.44	**14.** $1.79 - 0.39	**15.** $4.65 - 2.31

16. Candles cost $0.67. Jill gave the clerk $1.00. What coins did she get in her change?

17. Jill gave a $1.00 bill for a piece of cake. What coins did she get in change?

18. Choose the best one.

(a)

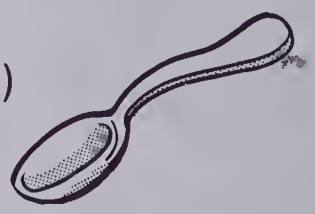
500 kg or 500 g

(b)

100 mL or 100 L

(c)

4 kg or 4 g

(d) 

10 L or 10 mL

Cumulative Review

1. 45 + 34 = ____

2. 204 + 495 = ____

3. 49 + 98 = ____

4. 304 + 209 = ____

5. 998 + 209 = ____

6. 38 - 15 = ____

7. 658 - 203 = ____

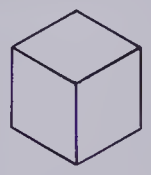
8. 36 - 18 = ____

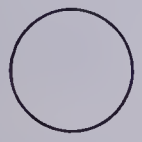
9. 341 - 160 = ____

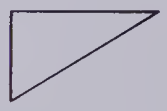
10. 802 - 439 = ____

11. Name each shape.

(a)

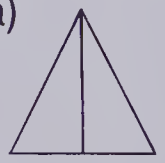
(b) 

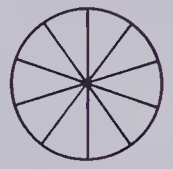
(c) 

(d) 

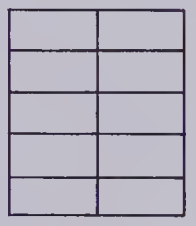
circle
cube
cone
square
triangle

12. Which show thirds? tenths?

(a) 

(b) 

(c)

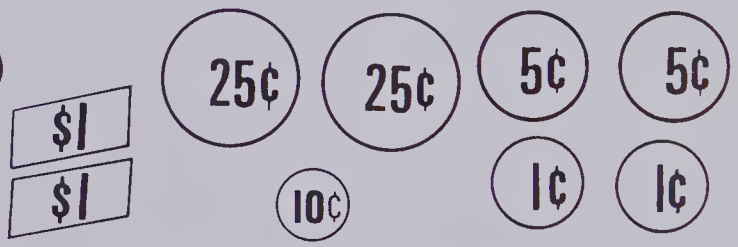
(d) 

(e)

(f)

13. Write the amounts.

(a)

(b) 

14. 0.4 + 0.5 = ____

15. 0.8 + 0.1 = ____

16. $1.22 + 2.57 = ____

17. $2.25 + 3.14 = ____

18. $5.01 + 2.98 = ____

19. 0.8 - 0.4 = ____

20. 0.9 - 0.3 = ____

21. $0.51 - 0.23 = ____

22. $5.74 - 1.61 = ____

23. $6.08 - 3.05 = ____

Chapter 6

Whole Numbers

Multiplication and Division

What is Multiplication?

Count the animals.

2 Camels
2 Elephants
2 Ostriches
+2 Monkeys

How many animals?

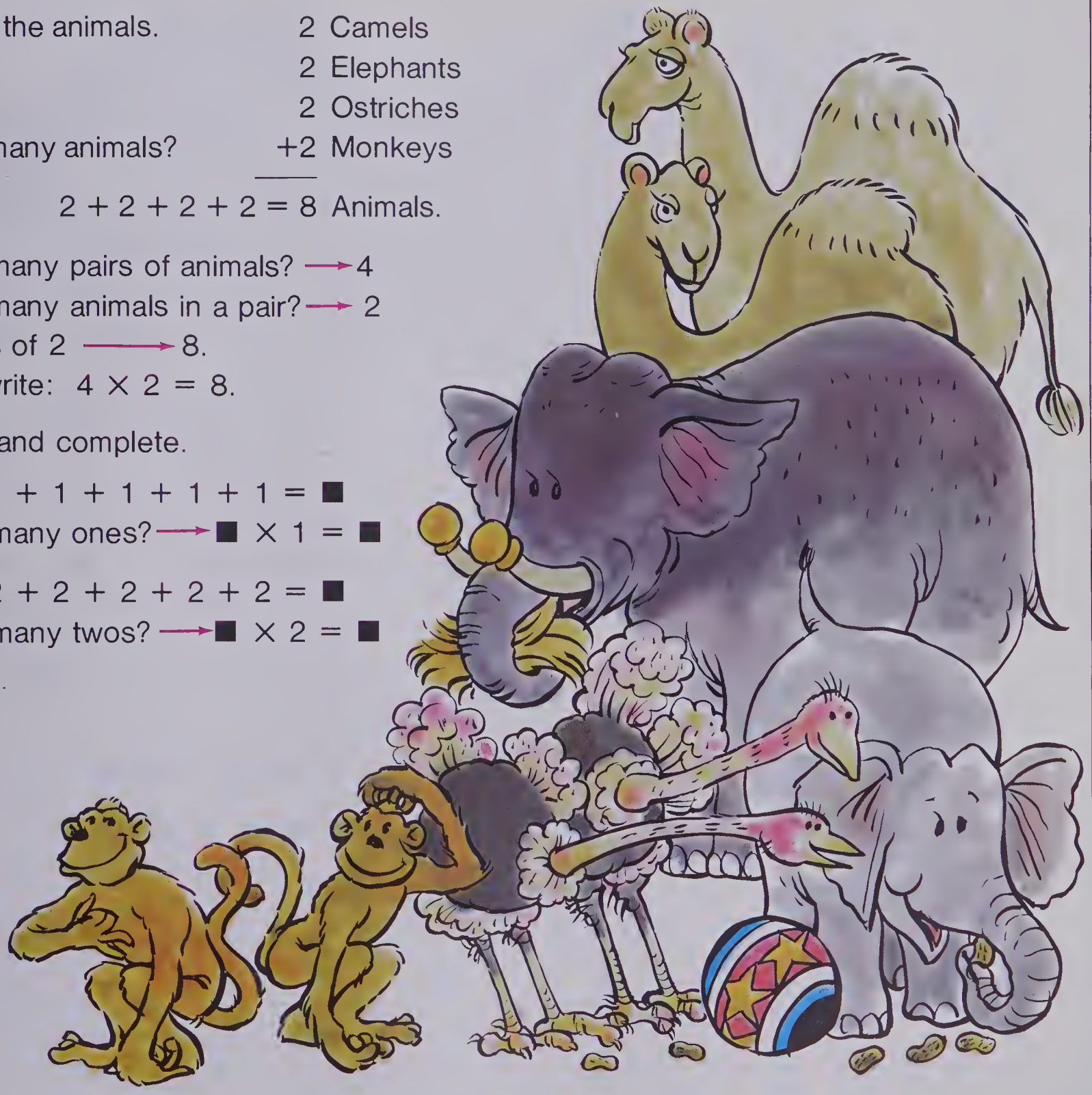
$2 + 2 + 2 + 2 = 8$ Animals.

How many pairs of animals? → 4
How many animals in a pair? → 2
4 sets of 2 → 8.
You write: $4 \times 2 = 8$.

Copy and complete.

$1 + 1 + 1 + 1 + 1 + 1 = \blacksquare$
How many ones? → $\blacksquare \times 1 = \blacksquare$

$2 + 2 + 2 + 2 + 2 + 2 = \blacksquare$
How many twos? → $\blacksquare \times 2 = \blacksquare$



Tune Up

Add.

1. 43 + 24	**2.** 68 + 31	**3.** 56 + 23	**4.** 46 + 35	**5.** 78 + 13
6. 324 + 592	**7.** 653 + 248	**8.** 261 + 369	**9.** 254 + 468	**10.** 427 + 396

Subtract.

11. 16 − 9	**12.** 27 − 8	**13.** 35 − 13	**14.** 64 − 26	**15.** 80 − 23
16. 631 − 50	**17.** 475 − 207	**18.** 528 − 239	**19.** 365 − 186	**20.** 807 − 438

Count by 2's.

21. 2, 4, ■, ■, ■, ■, ■, ■

22. 6, 8, ■, ■, ■, ■, ■, ■

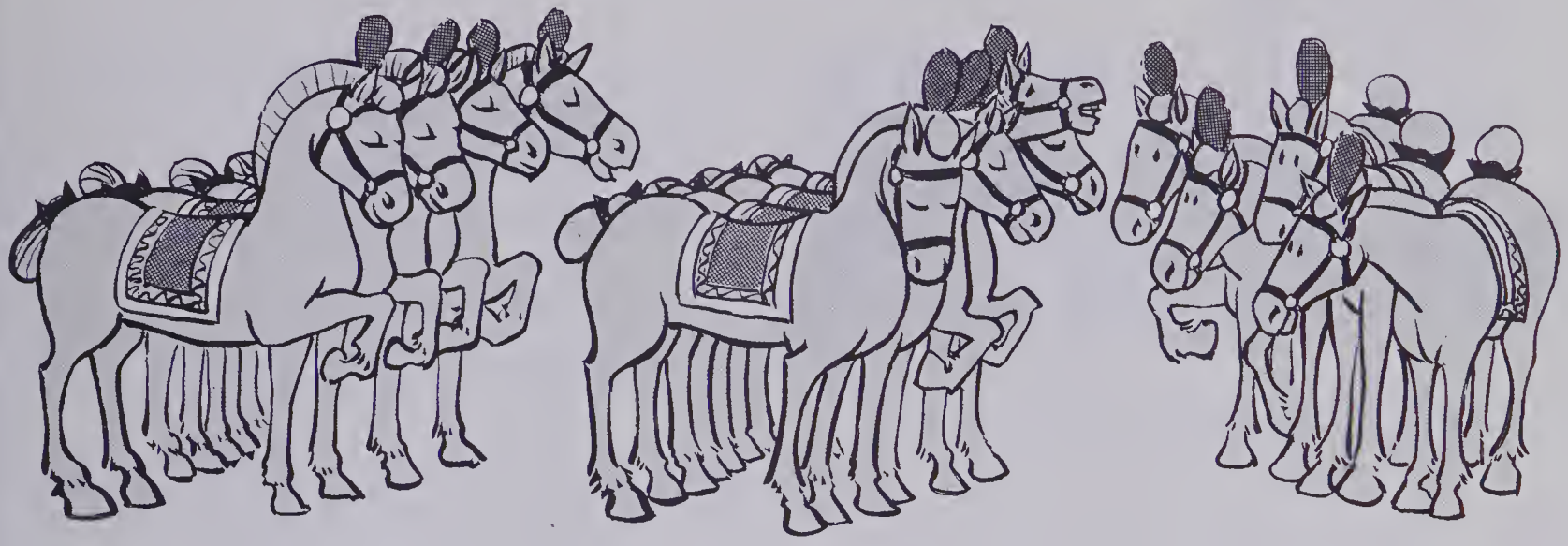
Count by 3's.

23. 3, 6, ■, ■, ■, ■, ■, ■

24. 12, 15, ■, ■, ■, ■, ■, ■

25. 2 2 + 2	**26.** 3 3 + 3	**27.** 4 4 + 4	**28.** 5 5 + 5	**29.** 1 1 + 1	**30.** 0 0 + 0

Multiplication Stories



3 groups of 4 horses.
$3 \times 4 = 12$ horses in all.

When you **multiply** two numbers, the answer is called the **product.**

$3 \times 4 = 12$ ← Multiplication story

12 is the product.

Write addition and multiplication stories for these.

1. ★★★ ★★★ ★★★ ★★★ $3 + 3 + 3 + 3 = \blacksquare$ $4 \times 3 = \blacksquare$
2. ★★ ★★ ★★
3. ★★★★★ ★★★★★
4. ★★★ ★★★ ★★★

Write the addition stories for these.

5. $2 \times 3 = 6$
6. $3 \times 4 = 12$
7. $2 \times 5 = 10$
8. $4 \times 2 = 8$

Multiplying by 2

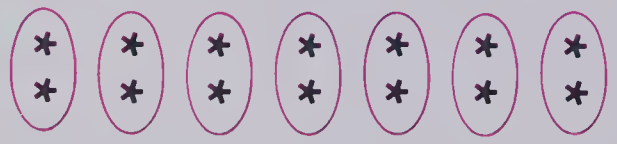
The children are going to the circus.
5 groups of children.
2 children in a group.
10 children are going to the circus.

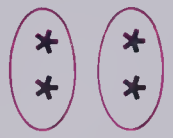
$5 \times 2 = 10$

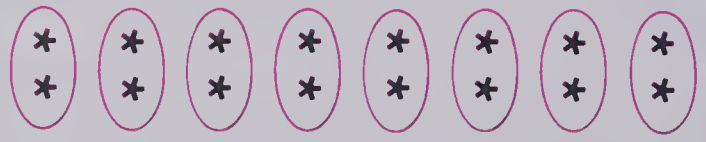
Write these stories for multiplying by 2.

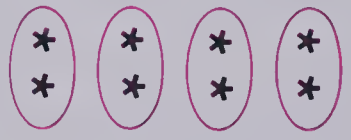
1.

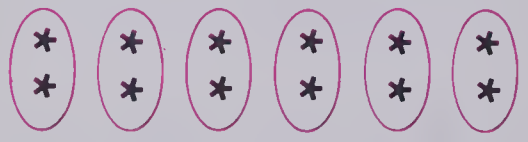
$3 \times 2 = \blacksquare$

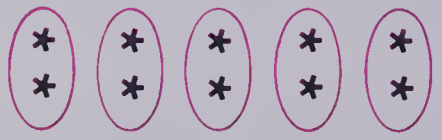
2. 

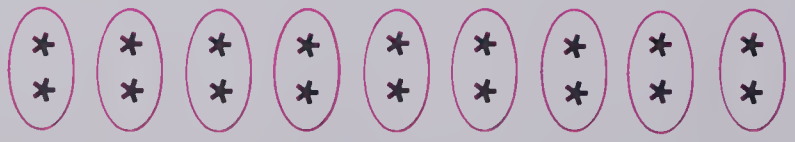
3. 

4. 

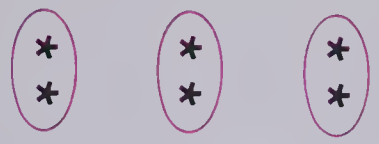
5. 

6. 

7. 

8. 

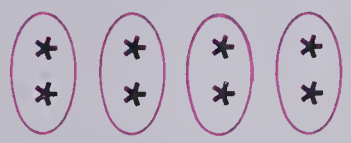
Arrays



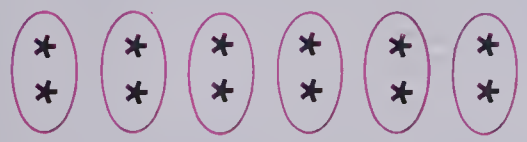
How many rows?
How many ✱'s in each row?
How many ✱'s altogether?

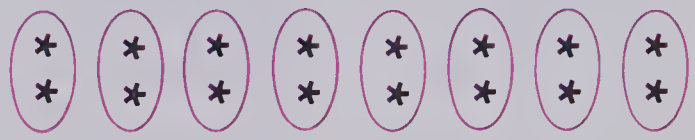
$3 \times 2 = \blacksquare$

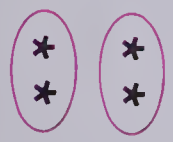
Write a multiplication story for each array.

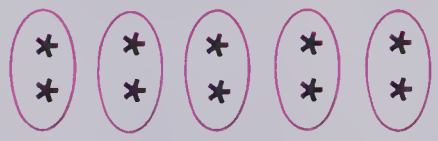
1. 

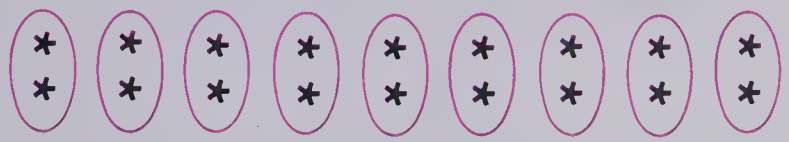
$\blacksquare \times \blacksquare = \blacksquare$

2. 

3. 

4. 

5. 

6. 

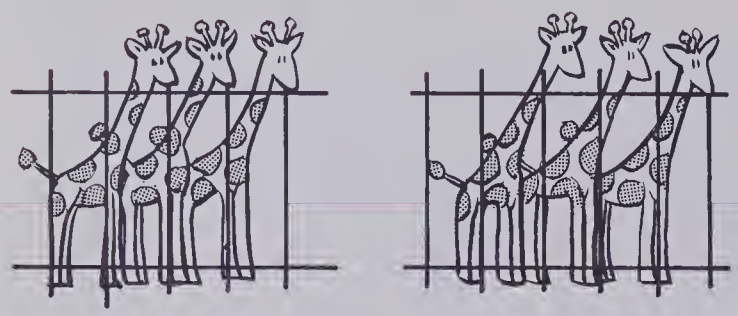
7. $8 \times 2 = \blacksquare$ **8.** $3 \times 2 = \blacksquare$ **9.** $5 \times 2 = \blacksquare$ **10.** $9 \times 2 = \blacksquare$

11. $10 \times 2 = \blacksquare$ **12.** $1 \times 2 = \blacksquare$ **13.** $3 \times 2 = \blacksquare$ **14.** $2 \times 2 = \blacksquare$

15. $7 \times 2 = \blacksquare$ **16.** $9 \times 2 = \blacksquare$ **17.** $4 \times 2 = \blacksquare$ **18.** $1 \times 2 = \blacksquare$

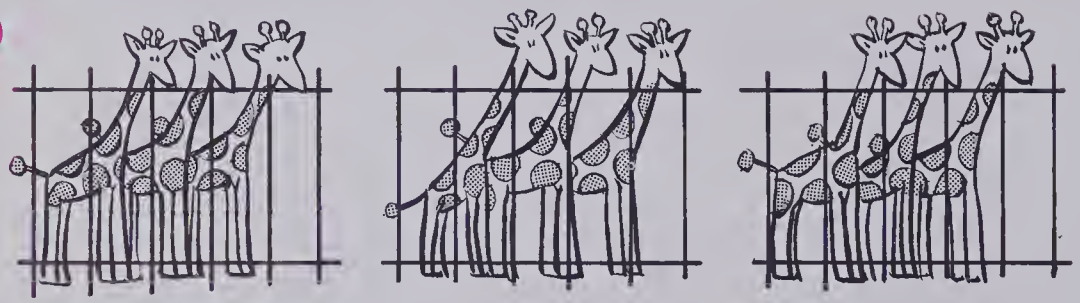
19. $6 \times 2 = \blacksquare$ **20.** $4 \times 2 = \blacksquare$ **21.** $2 \times 2 = \blacksquare$ **22.** $5 \times 2 = \blacksquare$

Multiplying by 3

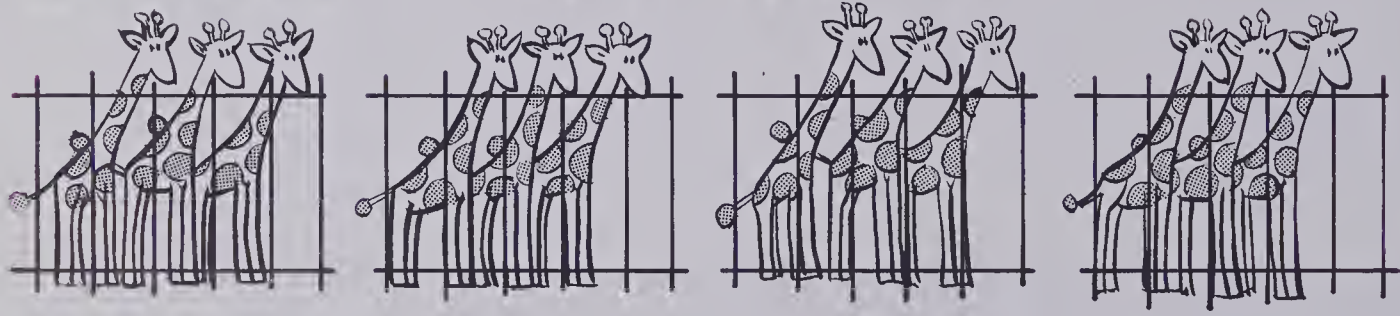


3 giraffes in each cage.
2 cages.
$2 \times 3 = 6$ giraffes altogether.

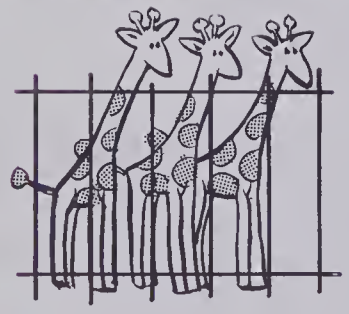
Write the multiplication stories for these.

1. 

$3 \times 3 = \blacksquare$

2. 

$4 \times 3 = \blacksquare$

3. 

$1 \times 3 = \blacksquare$

4. $2 \times 3 = \blacksquare$

5. $5 \times 3 = \blacksquare$

6. $1 \times 3 = \blacksquare$

7. $3 \times 3 = \blacksquare$

8. $4 \times 3 = \blacksquare$

9. $2 \times 3 = \blacksquare$

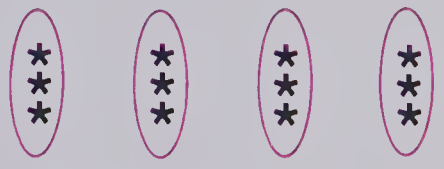
Arrays

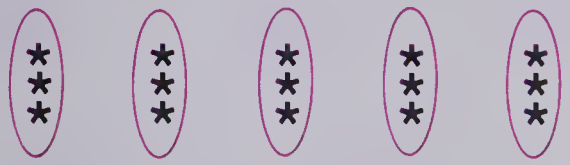
5 groups of 3.

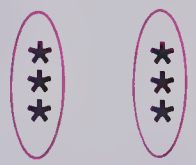
$5 \times 3 = 15$

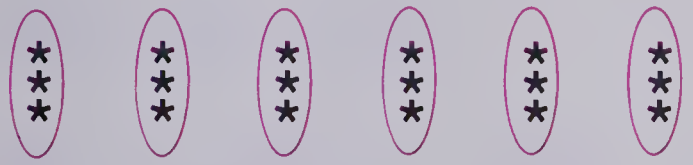
Write the multiplication stories for these.

1. $3 \times 3 = \blacksquare$

2. 

3. 

4. 

5. 

6.

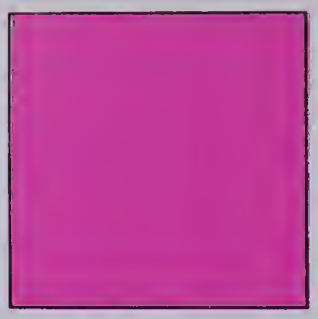
Copy and complete.

7. $4 \times 2 = \blacksquare$
8. $3 \times 3 = \blacksquare$
9. $5 \times 3 = \blacksquare$
10. $1 \times 3 = \blacksquare$
11. $5 \times 2 = \blacksquare$
12. $4 \times 3 = \blacksquare$
13. $2 \times 3 = \blacksquare$
14. $3 \times 2 = \blacksquare$

15. 4 seals in each pool.
2 pools.
How many seals?

16. 3 monkeys in each tree.
3 trees.
How many monkeys?

Fours

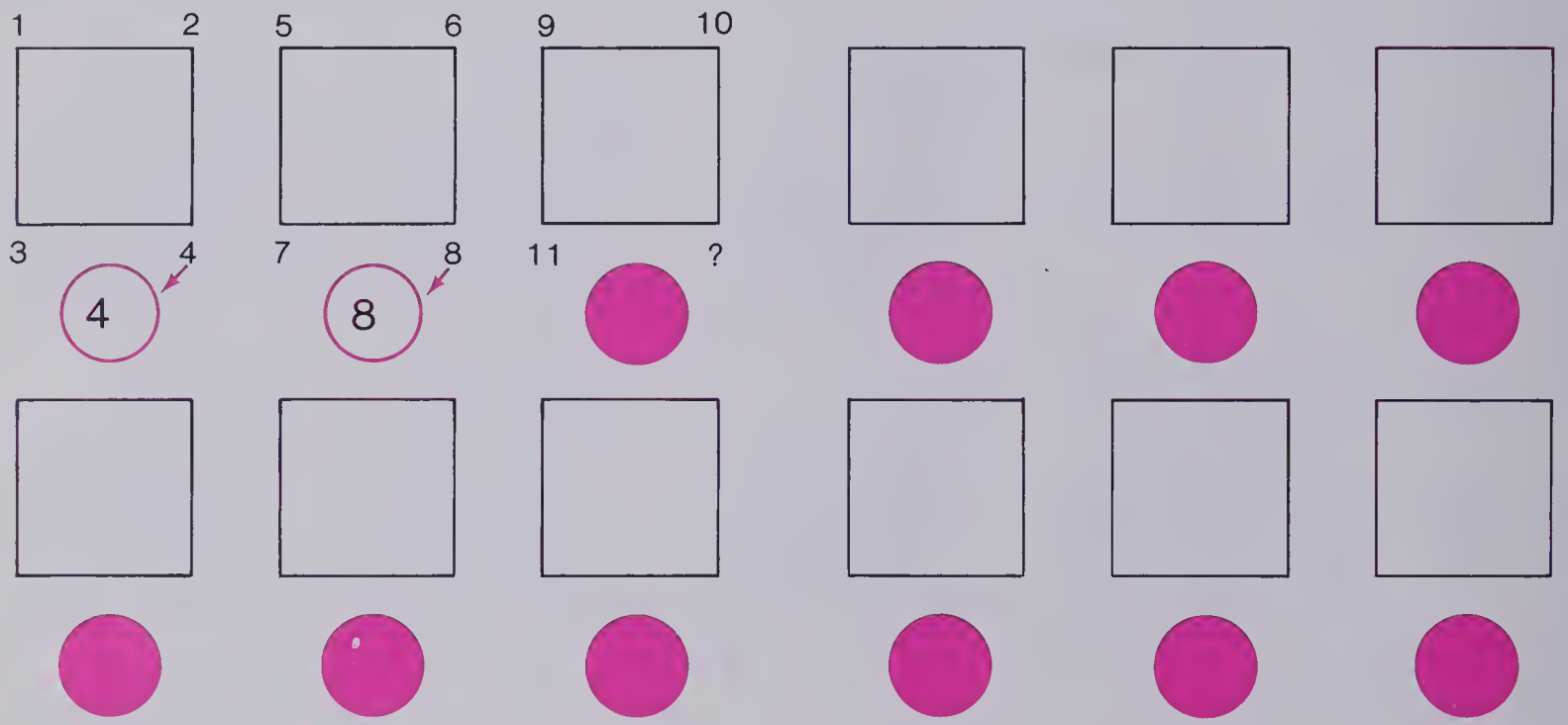


1. Take a square.

   How many corners does it have?

2. Draw some squares.

   Put a dot on each corner and write the number of corners under your pictures like this.



Finish these.

3. 4, 8, 12, ■, ■, ■

   12, 16, 20, ■, ■, ■

   20, 24, 28, ■, ■, ■

   28, 32, 36, ■, ■, ■

4. 16, 20, ■, ■, ■, ■

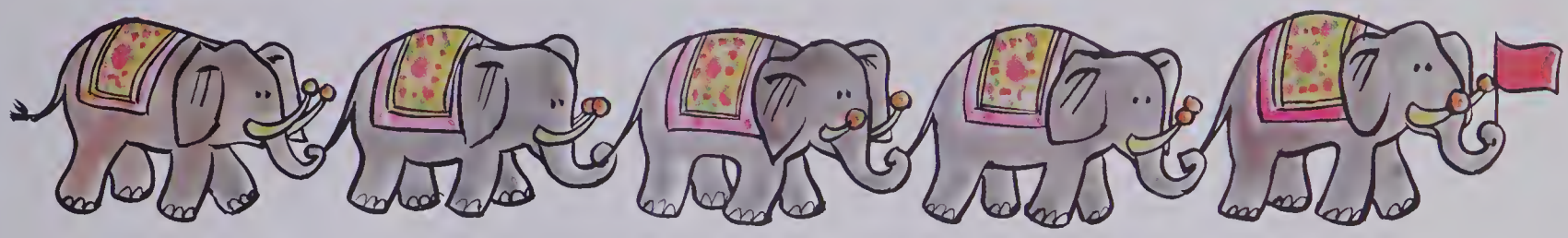
   24, 28, ■, ■, ■, ■

   32, 36, ■, ■, ■, ■

   36, 40, ■, ■, ■, ■

Multiplying by 4

Each elephant has 4 legs.
How many legs do the elephants have altogether?



1 elephant	has	4 legs.	$1 \times 4 = 4$
2 elephants	have	8 legs.	$2 \times 4 = 8$
3 elephants	have	12 legs.	$3 \times 4 = 12$
4 elephants	have	16 legs.	$4 \times 4 = 16$
5 elephants	have	20 legs.	$5 \times 4 = 20$

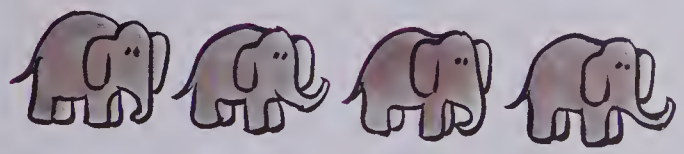
Write the multiplication stories for these.

1.

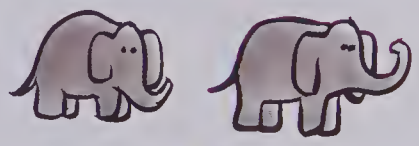
$3 \times 4 = \blacksquare$

2.

$5 \times 4 = \blacksquare$

3. 

$\blacksquare \times \blacksquare = \blacksquare$

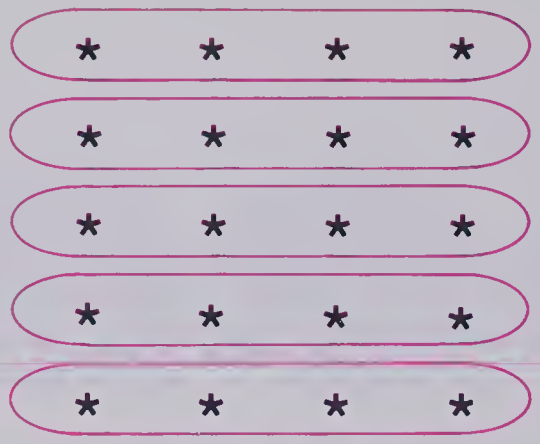
4. 

$\blacksquare \times \blacksquare = \blacksquare$

Copy and complete.

5. $1 \times 4 = \blacksquare$
6. $5 \times 3 = \blacksquare$
7. $5 \times 4 = \blacksquare$
8. $3 \times 3 = \blacksquare$
9. $3 \times 4 = \blacksquare$
10. $1 \times 4 = \blacksquare$
11. $2 \times 4 = \blacksquare$
12. $4 \times 3 = \blacksquare$
13. $4 \times 4 = \blacksquare$
14. $4 \times 2 = \blacksquare$
15. $5 \times 4 = \blacksquare$
16. $3 \times 4 = \blacksquare$

Arrays for 4



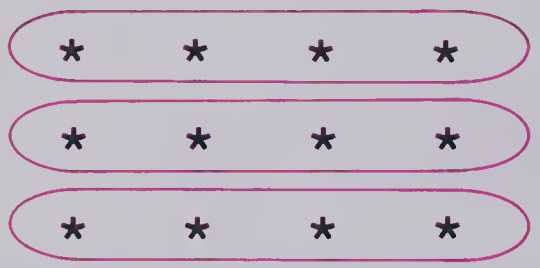
How many rows?

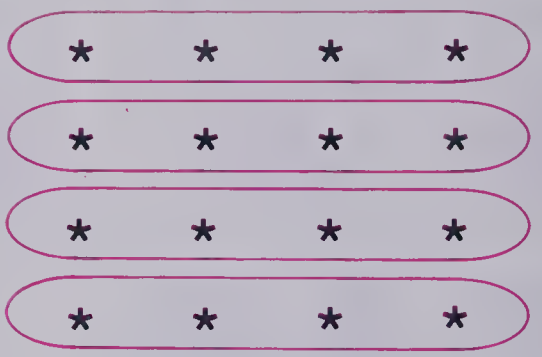
How many in each row?

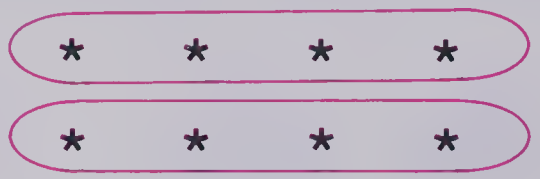
How many altogether?

5 × 4 = ■

Write a multiplication story for each.

1. 

2. 

3. 

4.

Copy and complete.

5. 3 × 4 = ■
6. 5 × 4 = ■
7. 2 × 4 = ■
8. 3 × 3 = ■
9. 4 × 4 = ■
10. 5 × 3 = ■
11. 2 × 3 = ■
12. 8 × 2 = ■

Fives

Trace your hands and number your fingers like this.

These are **tally marks.** 𝍸

How many lines are used in a **tally**?

How many lines are in these?

1. 𝍸 𝍸 𝍸 𝍸 𝍸
2. 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
3. 𝍸 𝍸 𝍸
4. 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
5. 𝍸 𝍸 𝍸 𝍸
6. 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸

Can you find a pattern?

Write the pattern.

Finish these.

7. 5, 10, ■, ■, ■, ■
8. 20, 25, 30, ■, ■, ■
9. 15, 20, ■, ■, ■, ■
10. 30, 35, ■, ■, ■

Multiplying by 5

1 clown can juggle 5 balls.	1 × 5 = 5
2 clowns can juggle 10 balls.	2 × 5 = 10
3 clowns can juggle 15 balls.	3 × 5 = 15
4 clowns can juggle 20 balls.	4 × 5 = 20
5 clowns can juggle 25 balls.	5 × 5 = 25

Now write multiplication stories for these.

1. ■ × ■ = ■

2. ■ × ■ = ■

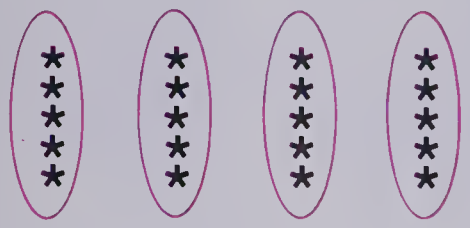
3. ■ × ■ = ■

4. ■ × ■ = ■

Copy and complete.

5. 2 × 5 = ■
6. 4 × 3 = ■
7. 5 × 5 = ■
8. 5 × 3 = ■
9. 3 × 5 = ■
10. 2 × 3 = ■
11. 1 × 5 = ■
12. 3 × 5 = ■
13. 4 × 5 = ■
14. 4 × 2 = ■
15. 3 × 4 = ■
16. 4 × 3 = ■

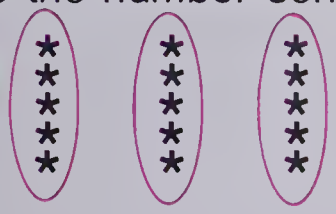
Arrays for 5

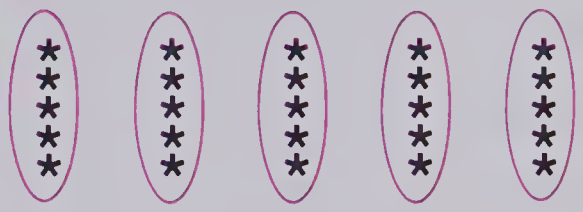


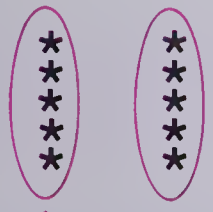
How many groups?
How many in each group?
How many altogether?

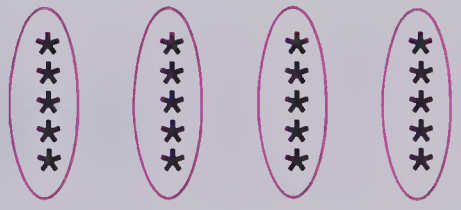
$4 \times 5 = \blacksquare$

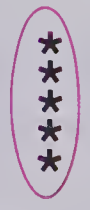
Write the number sentences.

1. 

2. 

3. 

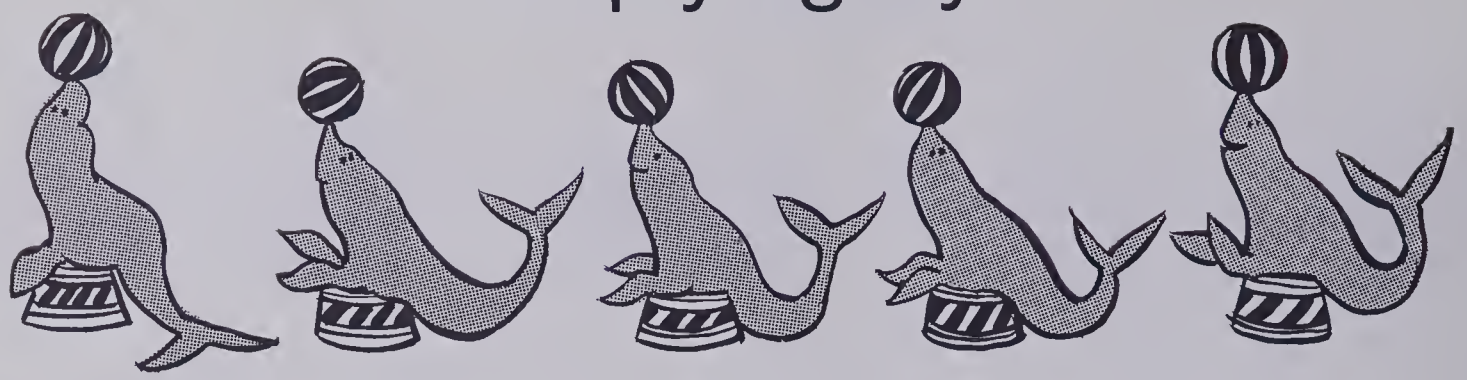
4. 

5. 

Copy and complete.

6. $4 \times 5 = \blacksquare$	7. $1 \times 5 = \blacksquare$	8. $2 \times 5 = \blacksquare$	9. $3 \times 3 = \blacksquare$
10. $4 \times 4 = \blacksquare$	11. $4 \times 2 = \blacksquare$	12. $5 \times 5 = \blacksquare$	13. $5 \times 2 = \blacksquare$
14. $2 \times 3 = \blacksquare$	15. $5 \times 3 = \blacksquare$	16. $1 \times 5 = \blacksquare$	17. $2 \times 4 = \blacksquare$
18. $3 \times 4 = \blacksquare$	19. $2 \times 5 = \blacksquare$	20. $3 \times 5 = \blacksquare$	21. $4 \times 4 = \blacksquare$
22. $4 \times 2 = \blacksquare$	23. $4 \times 5 = \blacksquare$	24. $2 \times 1 = \blacksquare$	25. $5 \times 5 = \blacksquare$

Multiplying by 1



1 seal balances 1 ball.	1 × 1 = 1
2 seals balance 2 balls.	2 × 1 = 2
3 seals balance 3 balls.	3 × 1 = 3
4 seals balance 4 balls.	4 × 1 = 4
5 seals balance 5 balls.	5 × 1 = 5

Write multiplication stories for these.

1. ■ × ■ = ■

2.

3.

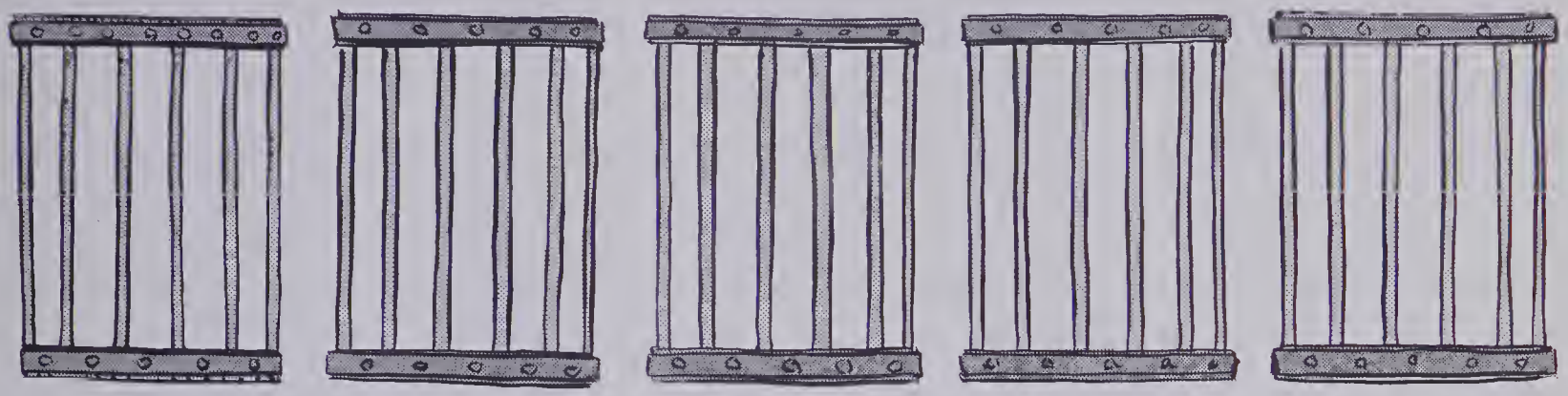
4.

5.

6.

7. 4 × 1 = ■
8. 7 × 1 = ■
9. 9 × 1 = ■
10. 5 × 1 = ■
11. 6 × 1 = ■
12. 3 × 1 = ■
13. 8 × 1 = ■
14. 2 × 1 = ■
15. 2 × 1 = ■
16. 9 × 1 = ■
17. 1 × 1 = ■
18. 6 × 1 = ■
19. 5 × 1 = ■
20. 8 × 1 = ■
21. 3 × 1 = ■
22. 4 × 1 = ■

"Zero" in Multiplication



How many cages?

How many animals in each cage?

How many animals altogether?

$5 \times 0 = 0$

When you multiply a number by zero, the answer is zero.

Multiply these.

1. $2 \times 0 = \blacksquare$	2. $9 \times 0 = \blacksquare$	3. $7 \times 0 = \blacksquare$	4. $96 \times 0 = \blacksquare$
5. $4 \times 0 = \blacksquare$	6. $6 \times 0 = \blacksquare$	7. $10 \times 0 = \blacksquare$	8. $42 \times 0 = \blacksquare$
9. $1 \times 0 = \blacksquare$	10. $10 \times 0 = \blacksquare$	11. $9 \times 0 = \blacksquare$	12. $37 \times 0 = \blacksquare$
13. $6 \times 0 = \blacksquare$	14. $12 \times 0 = \blacksquare$	15. $3 \times 0 = \blacksquare$	16. $100 \times 0 = \blacksquare$
17. $5 \times 0 = \blacksquare$	18. $17 \times 0 = \blacksquare$	19. $11 \times 0 = \blacksquare$	20. $65 \times 0 = \blacksquare$
21. $10 \times 0 = \blacksquare$	22. $15 \times 0 = \blacksquare$	23. $0 \times 0 = \blacksquare$	24. $24 \times 0 = \blacksquare$

Up-and-Down Stories

We can write an up-and-down multiplication story like this.

$$\begin{array}{r} 3 \\ \times\ 4 \\ \hline 12 \end{array}$$

Do these.

1. $1 \times 1 = \blacksquare$	2. $2 \times 3 = \blacksquare$	3. $0 \times 4 = \blacksquare$	4. $15 \times 1 = \blacksquare$
5. $2 \times 2 = \blacksquare$	6. $5 \times 4 = \blacksquare$	7. $3 \times 1 = \blacksquare$	8. $4 \times 2 = \blacksquare$
9. $4 \times 3 = \blacksquare$	10. $5 \times 5 = \blacksquare$	11. $0 \times 7 = \blacksquare$	12. $17 \times 0 = \blacksquare$
13. $4 \times 4 = \blacksquare$	14. $3 \times 3 = \blacksquare$	15. $1 \times 8 = \blacksquare$	16. $9 \times 1 = \blacksquare$
17. $2 \times 8 = \blacksquare$	18. $5 \times 3 = \blacksquare$	19. $2 \times 6 = \blacksquare$	20. $47 \times 0 = \blacksquare$

Now do these "up-and-down" stories.

21. $\begin{array}{r} 2 \\ \times\ 4 \\ \hline \end{array}$	22. $\begin{array}{r} 3 \\ \times\ 1 \\ \hline \end{array}$	23. $\begin{array}{r} 3 \\ \times\ 4 \\ \hline \end{array}$	24. $\begin{array}{r} 5 \\ \times\ 5 \\ \hline \end{array}$	25. $\begin{array}{r} 1 \\ \times\ 4 \\ \hline \end{array}$
26. $\begin{array}{r} 6 \\ \times\ 0 \\ \hline \end{array}$	27. $\begin{array}{r} 6 \\ \times\ 2 \\ \hline \end{array}$	28. $\begin{array}{r} 3 \\ \times\ 3 \\ \hline \end{array}$	29. $\begin{array}{r} 3 \\ \times\ 2 \\ \hline \end{array}$	30. $\begin{array}{r} 1 \\ \times\ 5 \\ \hline \end{array}$
31. $\begin{array}{r} 4 \\ \times\ 4 \\ \hline \end{array}$	32. $\begin{array}{r} 5 \\ \times\ 2 \\ \hline \end{array}$	33. $\begin{array}{r} 5 \\ \times\ 0 \\ \hline \end{array}$	34. $\begin{array}{r} 5 \\ \times\ 4 \\ \hline \end{array}$	35. $\begin{array}{r} 5 \\ \times\ 3 \\ \hline \end{array}$

Arrays

Look at the array on this card.

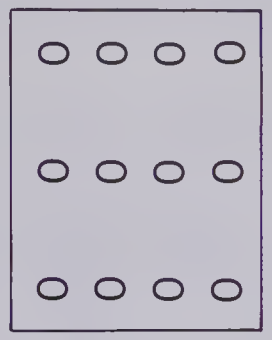
0	0	0
0	0	0
0	0	0
0	0	0

4 rows.

3 in each row.

$4 \times 3 = 12$

Now turn the card on its side.



3 rows.

4 in each row.

$3 \times 4 = 12$

Both = 12. So $4 \times 3 = 3 \times 4$.

Write the stories that go with these arrays.

1. 0 0 0
   0 0 0

   $2 \times 3 = 6$
   $3 \times 2 = 6$
   $2 \times 3 = 3 \times 2$

2. 0 0 0 0 0 0

3. 0 0 0 0 0
   0 0 0 0 0

4. 0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0

5. 0 0 0
   0 0 0
   0 0 0
   0 0 0
   0 0 0

6. 0 0 0 0
   0 0 0 0
   0 0 0 0
   0 0 0 0

7. 0 0 0 0
   0 0 0 0

8. 0 0 0 0
   0 0 0 0
   0 0 0 0

9. 0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0

Multiplication Mysteries

These are some mysteries that happened at the circus.

Find the answers.

Draw pictures or arrays to help you.

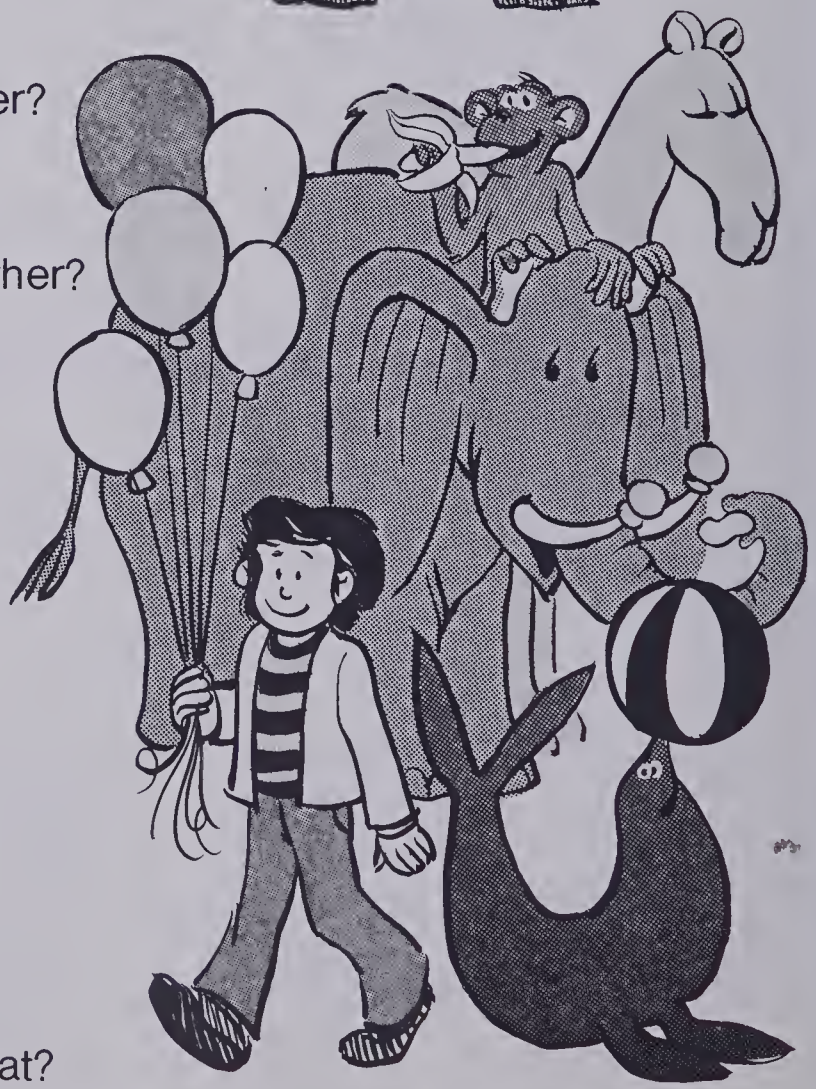
1. Two children drank 3 cans of pop each.
   How many cans of pop did they drink altogether?

$$2 \times 3 = \blacksquare$$

2. Five elephants ate 2 peanuts each.
   How many peanuts did they eat altogether?

3. One camel has 4 legs.
   How many legs do 5 camels have altogether?

4. A seal can balance 1 ball.
   How many balls can 8 seals balance?



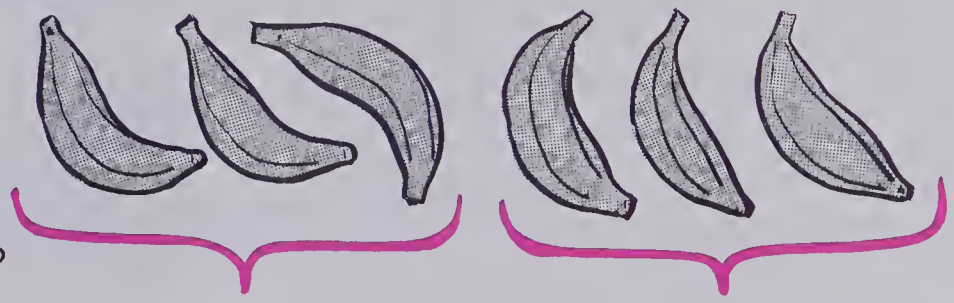
Watch these!

★ 5. Tom bought 5 balloons.
   So did David and Mary.
   How many balloons did the *boys* buy?

★ 6. A monkey can eat 5 bananas.
   How many bananas can the monkeys eat?

What is Division?

The animal keeper has 6 bananas for the monkeys.
Each monkey will get 3 bananas.
How many monkeys is he going to feed?

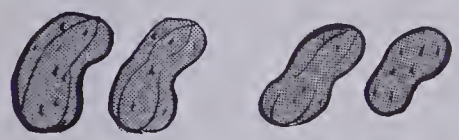


How many bananas?
How many groups of 3 bananas?
How many monkeys will get bananas?

6 shared in groups of 3.

$6 \div 3 = 2$

Find the number of groups.

1. 

4 shared in groups of 2.

$4 \div 2 = \blacksquare$

2.

8 shared in groups of 4.

$8 \div 4 = \blacksquare$

3.

6 shared in groups of 3.

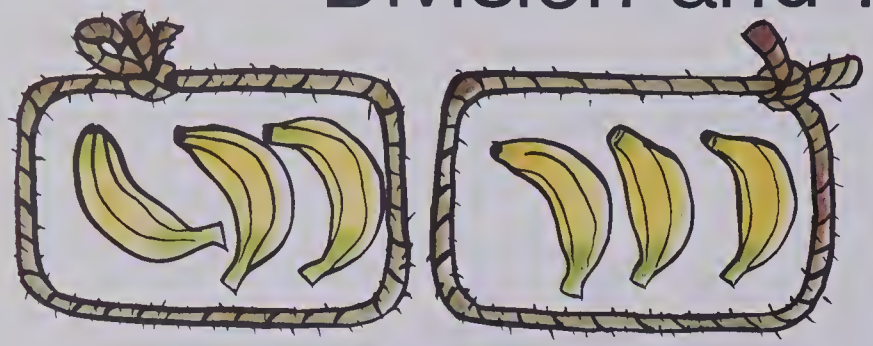
$6 \div 3 = \blacksquare$

4.

6 shared in groups of 2.

$6 \div 2 = \blacksquare$

Division and Multiplication



6 bananas altogether.
3 in each group.
2 groups of bananas.

$2 \times 3 = 6$

(2 groups of 3 = 6 altogether.)

$6 \div 3 = 2$

(6 altogether divided by 3 = 2.)

Write the division story that goes with these.

1.

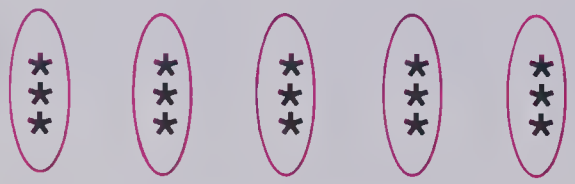
$2 \times 2 = 4$

■ ÷ ■ = ■

2.

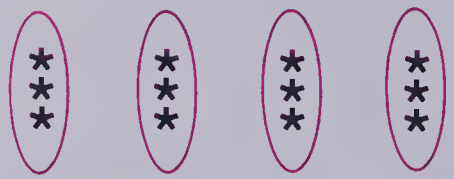
$3 \times 2 = 6$

■ ÷ ■ = ■

3. 

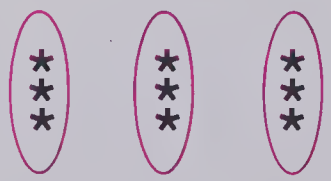
$5 \times 3 = 15$

■ ÷ ■ = ■

4. 

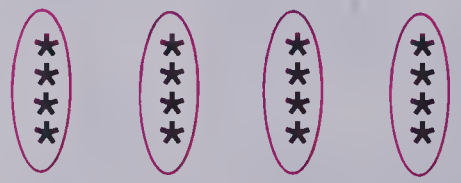
$4 \times 3 = 12$

■ ÷ ■ = ■

5. 

$3 \times 3 = 9$

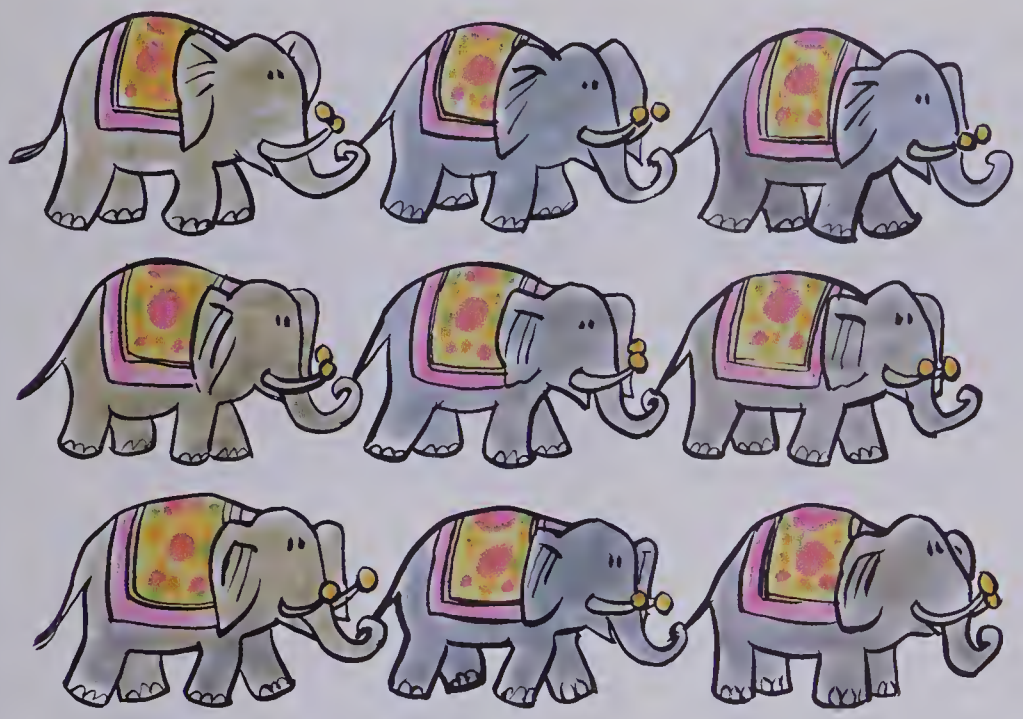
■ ÷ ■ = ■

6. 

$4 \times 4 = 16$

■ ÷ ■ = ■

Repeated Subtraction



How many elephants? → 9
How many in each row? → 3
How many rows? → 3

How many times can you take away a row of elephants?

$$\begin{array}{r} 9 \\ -\ 3 \\ \hline 6 \\ -\ 3 \\ \hline 3 \\ -\ 3 \\ \hline 0 \end{array}$$

(1 row of 3)

(1 row of 3)

(1 row of 3)

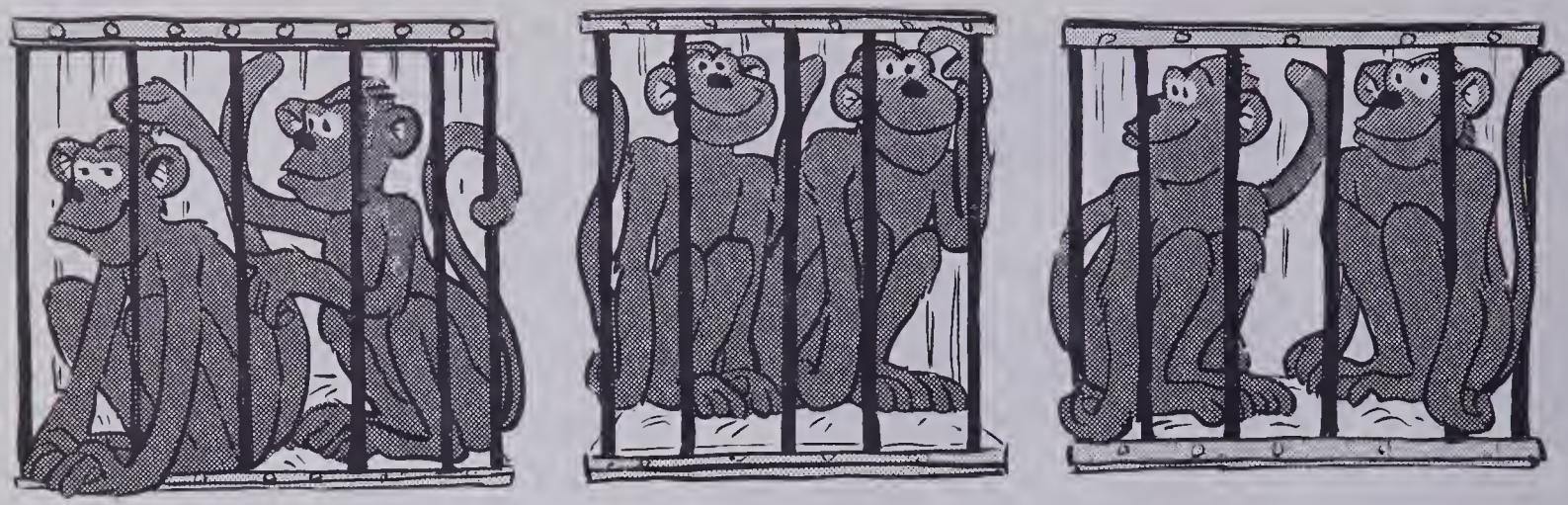
3 groups of 3 in 9.

$9 \div 3 = 3$

Copy and complete. Use repeated subtraction.

1. $12 \div 4 = \blacksquare$
2. $20 \div 5 = \blacksquare$
3. $10 \div 2 = \blacksquare$
4. $6 \div 2 = \blacksquare$
5. $16 \div 2 = \blacksquare$
6. $15 \div 3 = \blacksquare$
7. $25 \div 5 = \blacksquare$
8. $9 \div 3 = \blacksquare$

Division Stories



6 monkeys altogether.
2 must go into each cage.
How many cages do you need for the monkeys?

$$6 \div 2 = 3$$

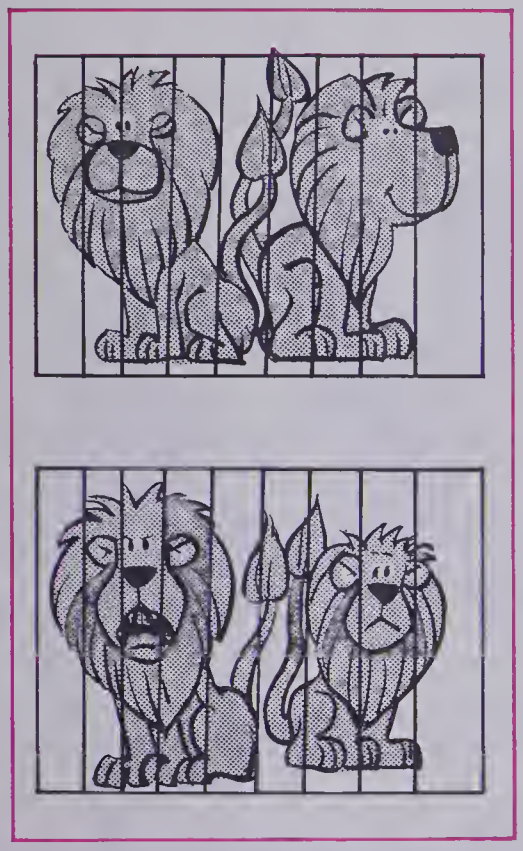
When you divide a number, the answer you get is called the **quotient.**
In $6 \div 2 = 3$, the quotient is 3.

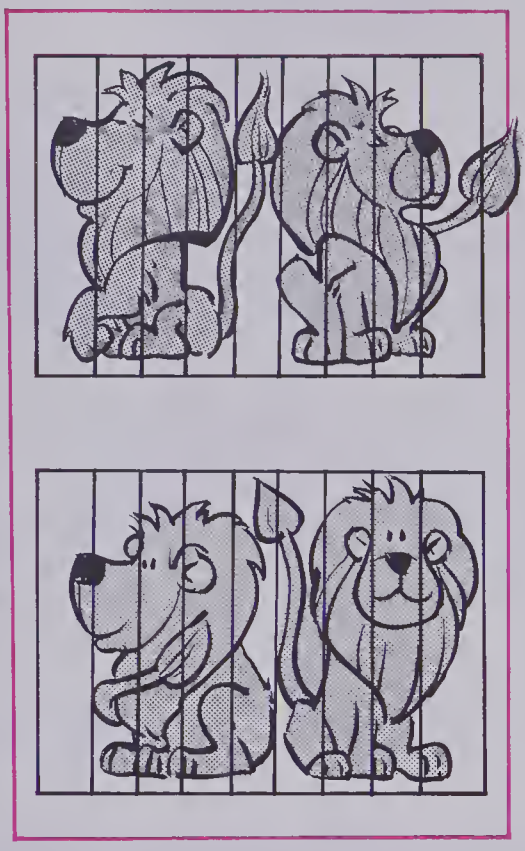
Copy and complete these.

1. $4 \div 2 = \blacksquare$
2. $10 \div 5 = \blacksquare$
3. $12 \div 4 = \blacksquare$
4. $20 \div 4 = \blacksquare$
5. $12 \div 3 = \blacksquare$
6. $6 \div 3 = \blacksquare$
7. $9 \div 3 = \blacksquare$
8. $15 \div 5 = \blacksquare$
9. $16 \div 2 = \blacksquare$
10. $25 \div 5 = \blacksquare$
11. $8 \div 2 = \blacksquare$
12. $20 \div 5 = \blacksquare$
13. $16 \div 4 = \blacksquare$
14. $18 \div 2 = \blacksquare$
15. $10 \div 2 = \blacksquare$

Related Stories

Division and multiplication stories go together.





$4 \times 2 = 8$

$2 \times 4 = 8$

$8 \div 2 = 4$

$8 \div 4 = 2$

Write all the multiplication and division stories for these.

1.

$\blacksquare \times \blacksquare = 12$

$\blacksquare \times \blacksquare = 12$

$12 \div \blacksquare = \blacksquare$

$12 \div \blacksquare = \blacksquare$

2.

$\blacksquare \times \blacksquare = 12$

$\blacksquare \times \blacksquare = 12$

$12 \div \blacksquare = \blacksquare$

$12 \div \blacksquare = \blacksquare$

3.

$\blacksquare \times \blacksquare = 15$

$\blacksquare \times \blacksquare = 15$

$15 \div \blacksquare = \blacksquare$

$15 \div \blacksquare = \blacksquare$

4.

$\blacksquare \times \blacksquare = 25$

$25 \div \blacksquare = \blacksquare$

Related Stories

Write the related multiplication stories for these.

1. (a) $8 \div 4 = 2$ (b) $15 \div 5 = \blacksquare$ (c) $10 \div 2 = \blacksquare$ (d) $20 \div 4 = \blacksquare$

2. (a) $16 \div 4 = \blacksquare$ (b) $25 \div 5 = \blacksquare$ (c) $12 \div 4 = \blacksquare$ (d) $9 \div 3 = \blacksquare$

3. (a) $16 \div 2 = \blacksquare$ (b) $6 \div 2 = \blacksquare$ (c) $20 \div 5 = \blacksquare$ (d) $24 \div 4 = \blacksquare$

Write the related division stories for these.

4. (a) $3 \times 4 = 12$ (b) $2 \times 2 = \blacksquare$ (c) $5 \times 3 = \blacksquare$ (d) $6 \times 2 = \blacksquare$

5. (a) $2 \times 5 = \blacksquare$ (b) $4 \times 2 = \blacksquare$ (c) $6 \times 1 = \blacksquare$ (d) $10 \times 2 = \blacksquare$

6. (a) $3 \times 3 = \blacksquare$ (b) $5 \times 4 = \blacksquare$ (c) $8 \times 2 = \blacksquare$ (d) $5 \times 5 = \blacksquare$

Copy these and fill in the missing parts.

7. $3 \times \blacksquare = 12$ $12 \div \blacksquare = 3$
   $\blacksquare \times 3 = 12$ $\blacksquare \div 3 = 4$

8. $5 \blacksquare 3 = 15$ $\blacksquare \div 3 = 5$
   $3 \times \blacksquare = 15$ $15 \div \blacksquare = 3$

9. $20 \blacksquare 4 = 5$ $4 \blacksquare 5 = 20$
   $20 \blacksquare 5 = 4$ $5 \blacksquare 4 = 20$

10. $\blacksquare \div 2 = 4$ $\blacksquare \times 4 = 8$
    $8 \div 4 = \blacksquare$ $4 \times 2 = \blacksquare$

11. $2 \times 5 = \blacksquare$ $10 \div \blacksquare = 5$
    $5 \times \blacksquare = 10$ $10 \div 5 = \blacksquare$

12. $8 \div 1 = \blacksquare$ $8 \times \blacksquare = 8$
    $8 \div \blacksquare = 8$ $\blacksquare \times 1 = 8$

Dividing by 1

4 fish for the seals.
1 fish for each seal.
How many seals will the clown feed?

$4 \div 1 = 4$

When you divide a number by 1, the answer is the same as the number you are dividing.

Divide these.

1. $8 \div 1 = \blacksquare$
2. $16 \div 1 = \blacksquare$
3. $9 \div 1 = \blacksquare$
4. $2 \div 1 = \blacksquare$
5. $12 \div 1 = \blacksquare$
6. $4 \div 1 = \blacksquare$
7. $6 \div 1 = \blacksquare$
8. $25 \div 1 = \blacksquare$
9. $15 \div 1 = \blacksquare$
10. $20 \div 1 = \blacksquare$
11. $7 \div 1 = \blacksquare$
12. $10 \div 1 = \blacksquare$

Practice

Multiply.

1. (a) $5 \times 3 = \blacksquare$ (b) $3 \times 2 = \blacksquare$ (c) $5 \times 5 = \blacksquare$ (d) $4 \times 5 = \blacksquare$
2. (a) $2 \times 8 = \blacksquare$ (b) $4 \times 4 = \blacksquare$ (c) $1 \times 8 = \blacksquare$ (d) $0 \times 9 = \blacksquare$
3. (a) $2 \times 10 = \blacksquare$ (b) $3 \times 3 = \blacksquare$ (c) $1 \times 14 = \blacksquare$ (d) $2 \times 4 = \blacksquare$

Divide.

4. (a) $20 \div 4 = \blacksquare$ (b) $8 \div 4 = \blacksquare$ (c) $12 \div 2 = \blacksquare$ (d) $15 \div 3 = \blacksquare$
5. (a) $6 \div 2 = \blacksquare$ (b) $8 \div 2 = \blacksquare$ (c) $10 \div 5 = \blacksquare$ (d) $14 \div 2 = \blacksquare$
6. (a) $4 \div 2 = \blacksquare$ (b) $12 \div 3 = \blacksquare$ (c) $15 \div 5 = \blacksquare$ (d) $10 \div 1 = \blacksquare$

7. There are 4 cages.
   There are 3 monkeys in each cage.
   How many monkeys are there altogether?

   $4 \times 3 = \blacksquare$

8. One elephant has 4 legs.
   How many legs do 4 elephants have?

Watch these!

★ 9. Each clown wears 3 hats and 1 coat.
   There are 9 hats altogether.
   How many clowns are there?

★ 10. The children got 4 boxes of popcorn.
   How many children were there?

BRAINTICKLER

(a)

(b)

(c)

How many ○'s?

Animal Trainer

1. The lion tamer has 12 lions.
He put them into 4 cages.
How many lions are in each cage?

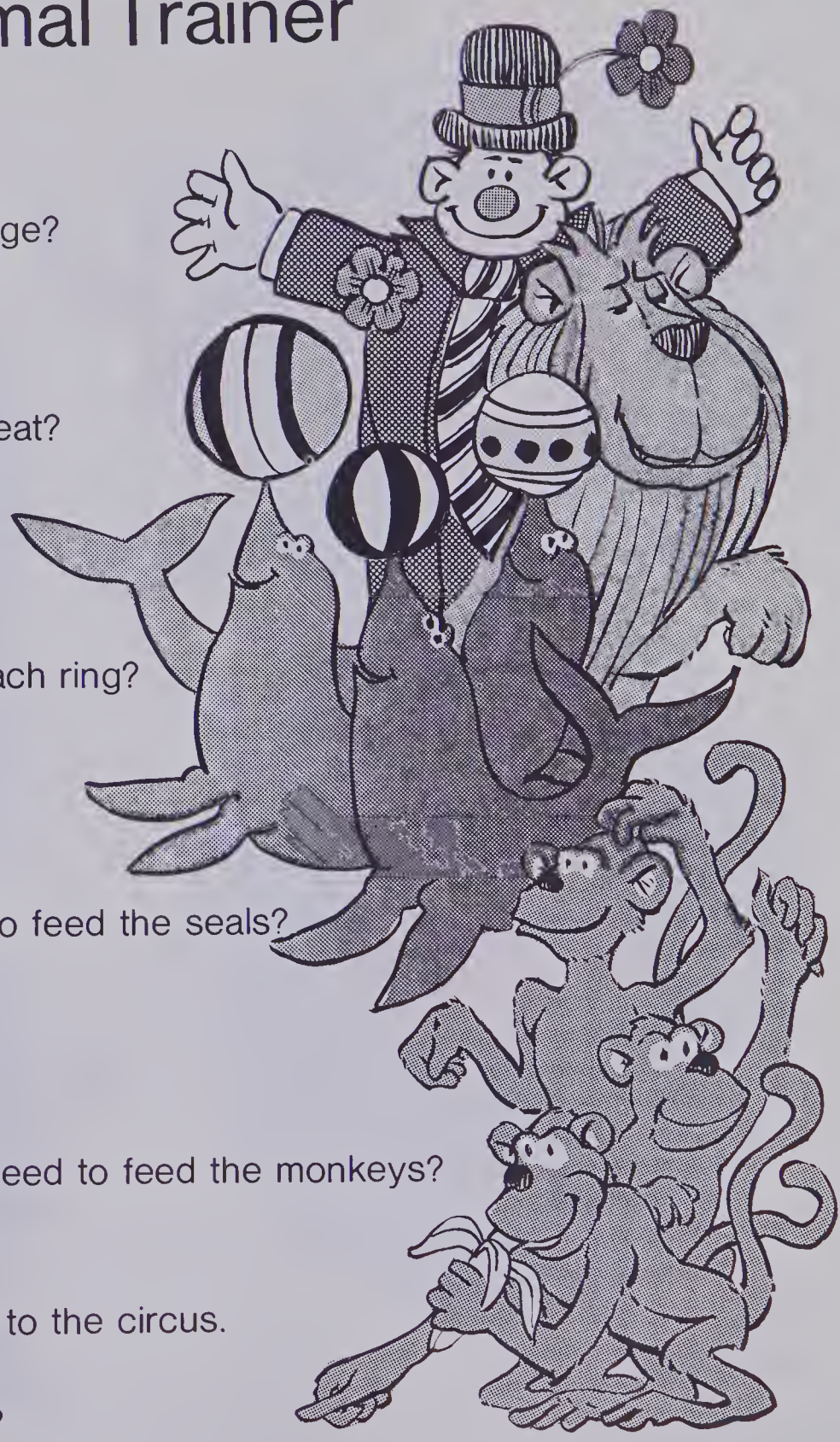
2. One lion can eat 5 steaks.
How many steaks can 5 lions eat?

3. The circus has 3 rings.
There are 15 clowns.
How many clowns will go in each ring?

4. There are 16 seals.
Each seal can eat 1 fish.
How many fish do they need to feed the seals?

5. There are 4 monkeys.
Each monkey ate 4 bananas.
How many bananas did they need to feed the monkeys?

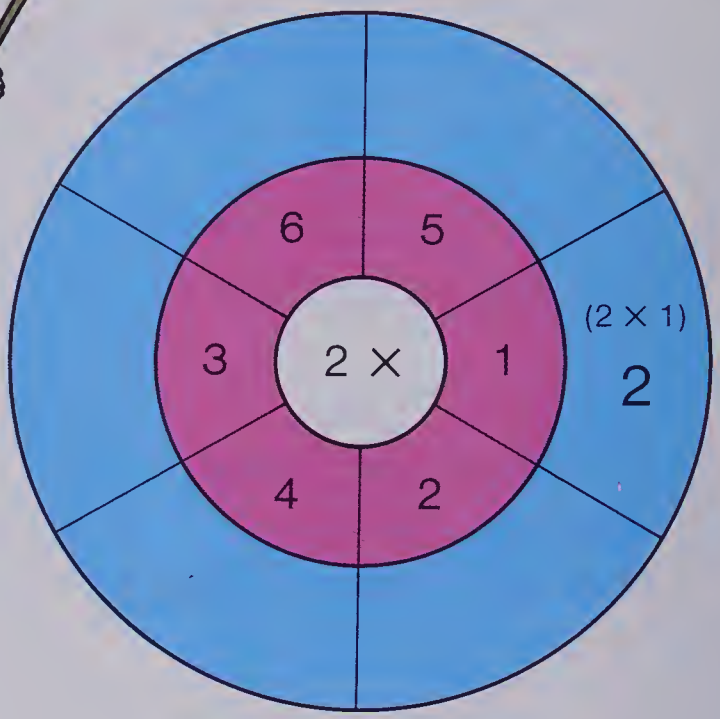
6. There were 20 children going to the circus.
5 sat in each row.
How many rows did they use?

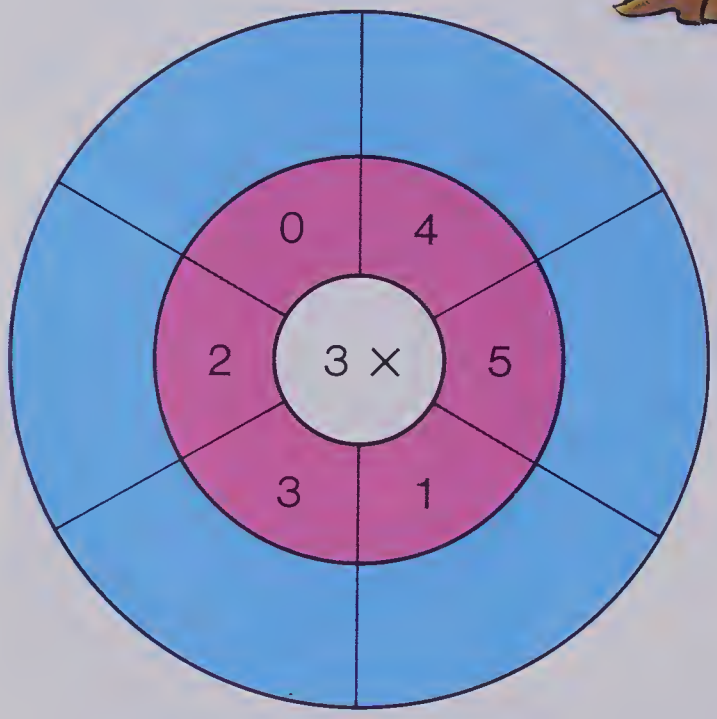


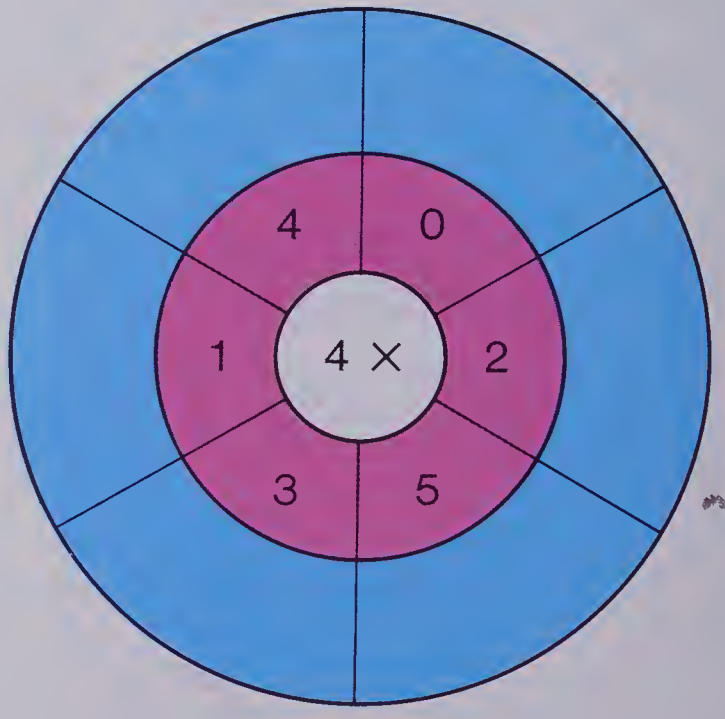
Three-ring Circus

Multiply the number in the centre by the numbers in the red (middle) ring.

Put the product in the outside ring.



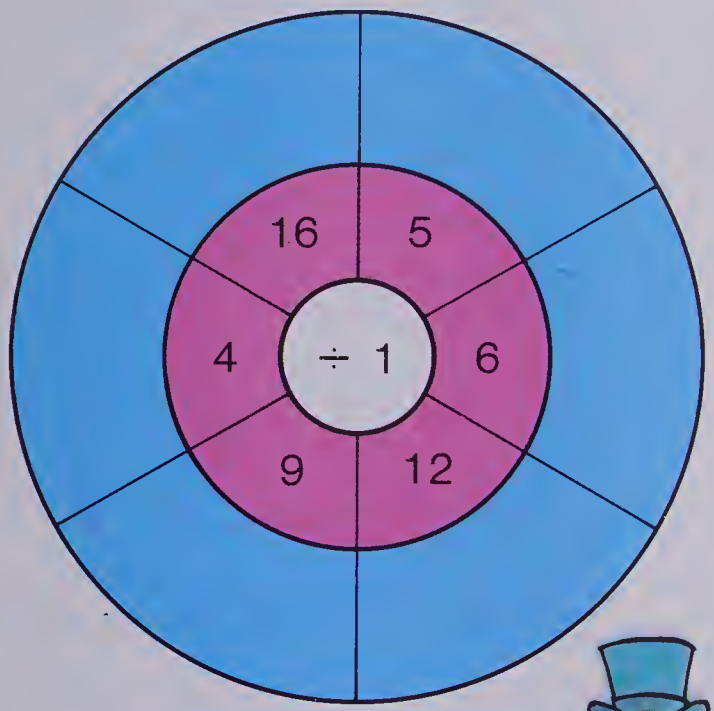


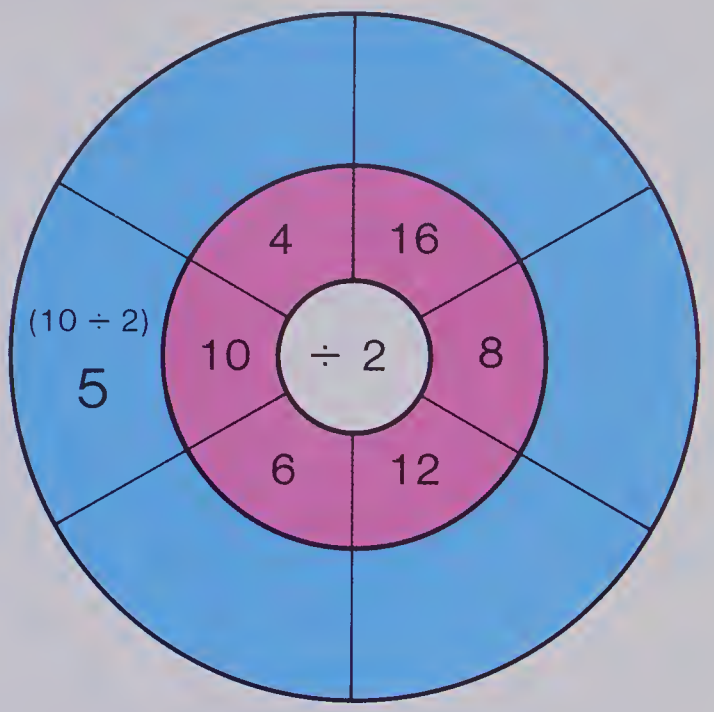


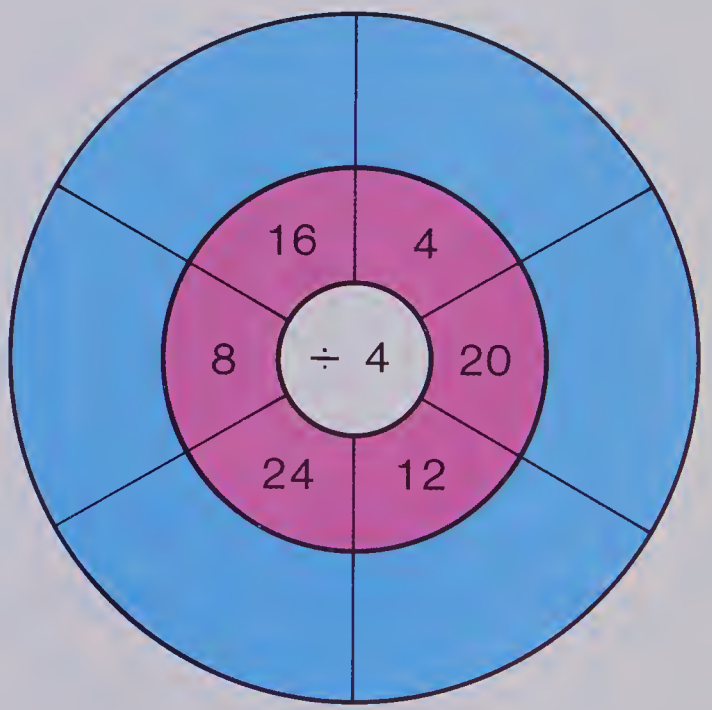
Make up some more multiplication rings for 1, 5, and 0.

Divide the number in the middle ring (red) by the number in the centre.

Put the answer in the outside ring.







What you know about multiplying will help you.

Chapter Test

Multiply.

1. (a) $2 \times 10 = \blacksquare$ (b) $4 \times 3 = \blacksquare$ (c) $4 \times 1 = \blacksquare$ (d) $5 \times 0 = \blacksquare$
2. (a) $3 \times 3 = \blacksquare$ (b) $5 \times 5 = \blacksquare$ (c) $3 \times 5 = \blacksquare$ (d) $5 \times 4 = \blacksquare$
3. (a) $6 \times 0 = \blacksquare$ (b) $1 \times 9 = \blacksquare$ (c) $12 \times 1 = \blacksquare$ (d) $1 \times 3 = \blacksquare$
4. (a) $4 \times 5 = \blacksquare$ (b) $2 \times 3 = \blacksquare$ (c) $2 \times 2 = \blacksquare$ (d) $9 \times 0 = \blacksquare$
5. (a) $4 \times 4 = \blacksquare$ (b) $4 \times 2 = \blacksquare$ (c) $1 \times 4 = \blacksquare$ (d) $3 \times 2 = \blacksquare$

Divide.

6. (a) $15 \div 3 = \blacksquare$ (b) $12 \div 4 = \blacksquare$ (c) $20 \div 2 = \blacksquare$ (d) $10 \div 2 = \blacksquare$
7. (a) $9 \div 3 = \blacksquare$ (b) $4 \div 2 = \blacksquare$ (c) $12 \div 3 = \blacksquare$ (d) $8 \div 4 = \blacksquare$
8. (a) $6 \div 3 = \blacksquare$ (b) $20 \div 4 = \blacksquare$ (c) $15 \div 5 = \blacksquare$ (d) $9 \div 1 = \blacksquare$
9. (a) $12 \div 2 = \blacksquare$ (b) $10 \div 5 = \blacksquare$ (c) $8 \div 2 = \blacksquare$ (d) $14 \div 2 = \blacksquare$
10. (a) $16 \div 4 = \blacksquare$ (b) $25 \div 5 = \blacksquare$ (c) $25 \div 1 = \blacksquare$ (d) $6 \div 2 = \blacksquare$

11. One clown juggles 4 balls.
How many balls can 4 clowns juggle?

12. There are 12 monkeys.
Three will go into each cage.
How many cages?

13. One ostrich has 2 legs.
How many legs do 10 ostriches have?

Cumulative Review

1. (a) $\begin{array}{r} 461 \\ +\ 153 \\ \hline \end{array}$ (b) $\begin{array}{r} 147 \\ +\ 392 \\ \hline \end{array}$ (c) $\begin{array}{r} 293 \\ +\ 368 \\ \hline \end{array}$ (d) $\begin{array}{r} 375 \\ +\ 279 \\ \hline \end{array}$ (e) $\begin{array}{r} 582 \\ +\ 149 \\ \hline \end{array}$

2. (a) $\begin{array}{r} 184 \\ -\ 62 \\ \hline \end{array}$ (b) $\begin{array}{r} 398 \\ -\ 243 \\ \hline \end{array}$ (c) $\begin{array}{r} 576 \\ -\ 239 \\ \hline \end{array}$ (d) $\begin{array}{r} 465 \\ -\ 178 \\ \hline \end{array}$ (e) $\begin{array}{r} 907 \\ -\ 569 \\ \hline \end{array}$

3. (a) $\begin{array}{r} 631 \\ +\ 105 \\ \hline \end{array}$ (b) $\begin{array}{r} 423 \\ +\ 289 \\ \hline \end{array}$ (c) $\begin{array}{r} 843 \\ -\ 305 \\ \hline \end{array}$ (d) $\begin{array}{r} 768 \\ +\ 178 \\ \hline \end{array}$ (e) $\begin{array}{r} 543 \\ -\ 164 \\ \hline \end{array}$

4. (a) $4 \times 5 = \blacksquare$ (b) $5 \times 2 = \blacksquare$ (c) $1 \times 6 = \blacksquare$ (d) $10 \times 2 = \blacksquare$

5. (a) $8 \times 0 = \blacksquare$ (b) $3 \times 5 = \blacksquare$ (c) $5 \times 5 = \blacksquare$ (d) $4 \times 3 = \blacksquare$

6. (a) $12 \div 4 = \blacksquare$ (b) $8 \div 2 = \blacksquare$ (c) $9 \div 3 = \blacksquare$ (d) $20 \div 4 = \blacksquare$

7. (a) $10 \div 2 = \blacksquare$ (b) $20 \div 5 = \blacksquare$ (c) $12 \div 3 = \blacksquare$ (d) $6 \div 2 = \blacksquare$

8. (a) $14 \div 2 = \blacksquare$ (b) $9 \times 0 = \blacksquare$ (c) $25 \div 5 = \blacksquare$ (d) $4 \times 2 = \blacksquare$

9. One clown wears 5 hats.
How many hats can 4 clowns wear?

10. There are 2 clown cars.
16 clowns can ride.
How many clowns ride in each car?

11. There were 25 apples.
A circus horse can eat 5 apples.
How many circus horses will be fed?

12. There were no gorillas.
There were 6 cages.
How many gorillas in each cage?

Chapter 7

Measurement

Perimeter, Area, and Volume
Time
Temperature

Tune Up

Use your ruler. Write the lengths in centimetres.

1.

2.

Use your ruler. Write the lengths measured to the nearest centimetre.

3.

4.

In your workbook, draw segments

5. 6 cm long.

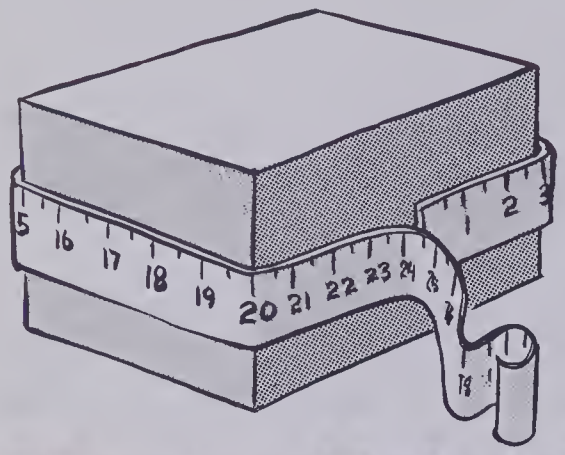
6. 13 cm long.

7. 9 cm long.

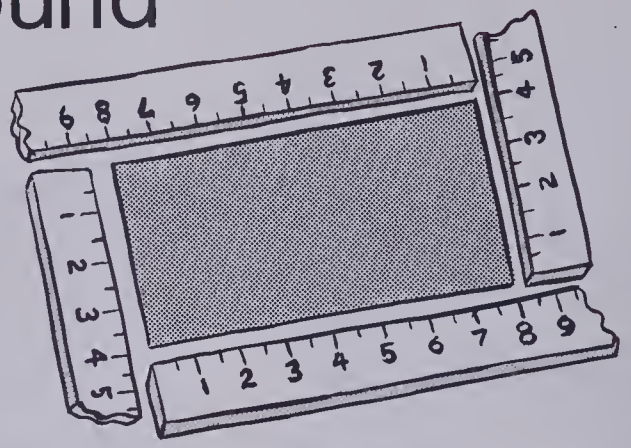
8. On the floor, use chalk to draw a segment 3 m long.

9. Measure to the nearest metre the length of the teacher's desk; the width of the desk.

Going Around



Distance around the box is 24 units.
Perimeter is 24 units.



Distance around rectangle is
8 units + 4 units + 8 units + 4 units.
Perimeter is 24 units.

The distance around an object is the perimeter.

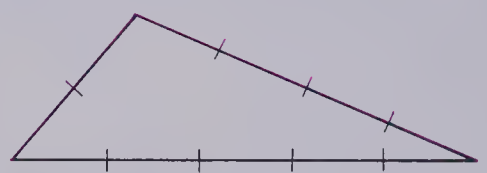
Add to find the perimeter.

1 unit.

1.

■ + ■ + ■ + ■

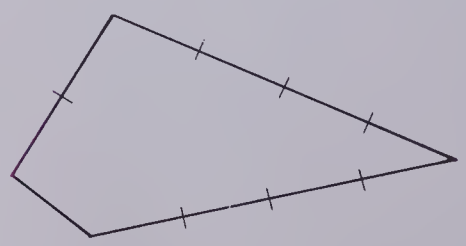
2.



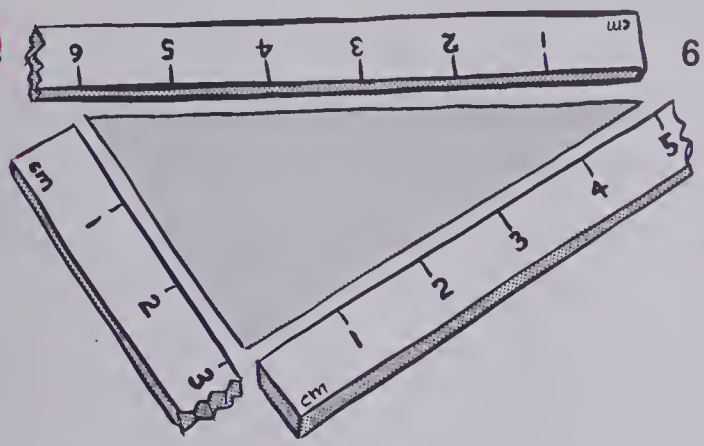
■ + ■ + ■

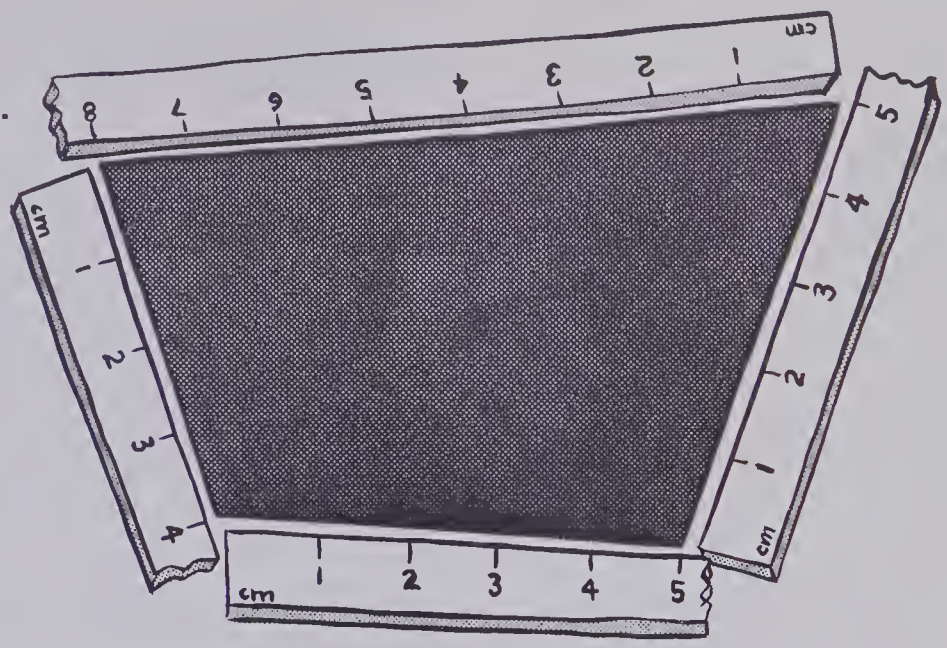
3.

4.

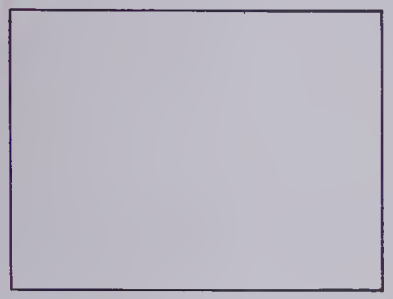


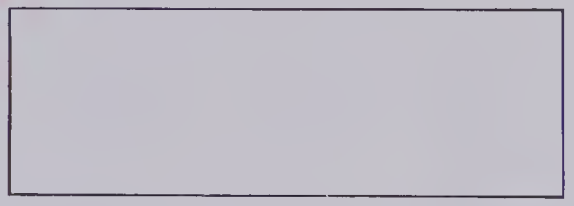
Find the perimeter.

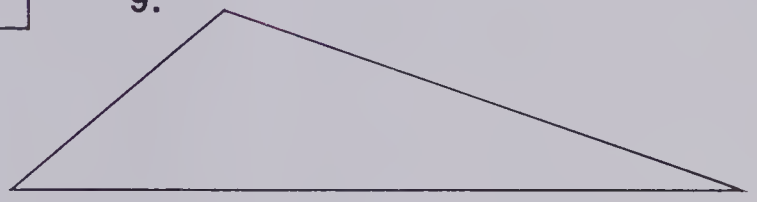
5. 

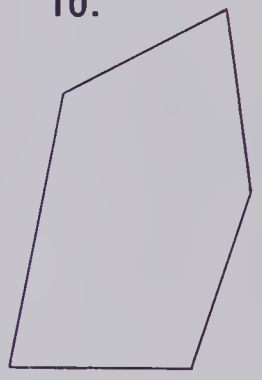
6. 

Use your ruler. Measure each side. Add to find the perimeter.

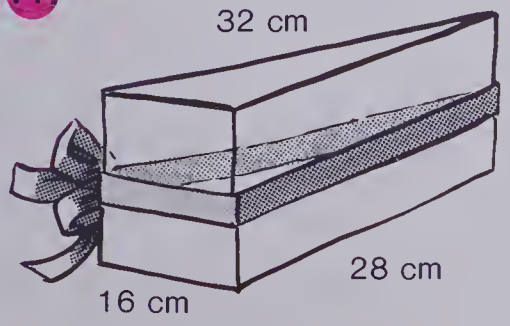
7. 

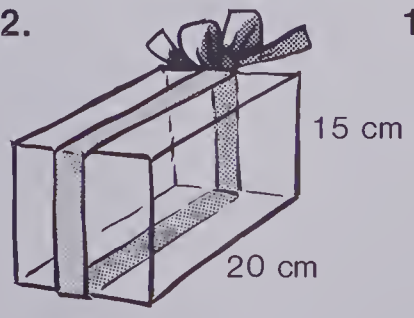
8. 

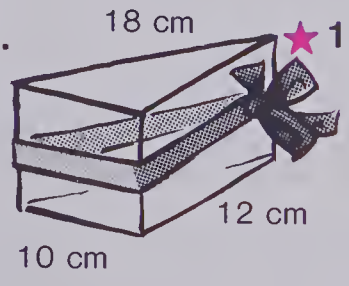
9. 

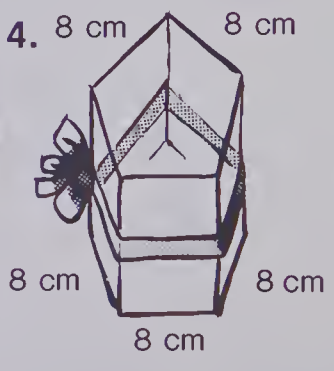
10. 

How much ribbon is needed to go around each box?

11. 

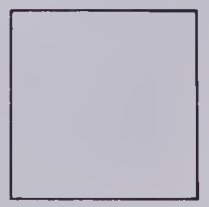
12. 

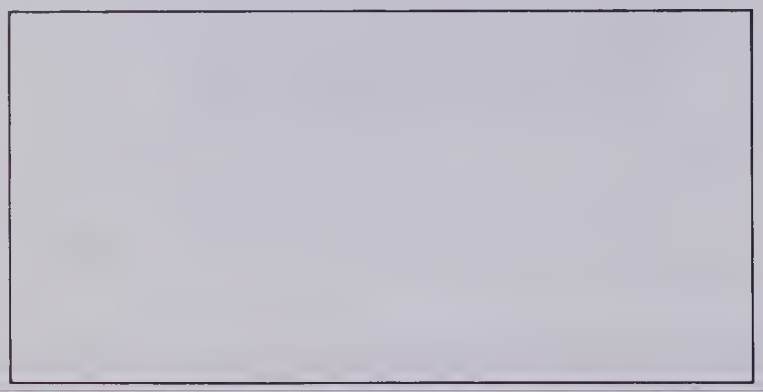
13. 

★ 14. 

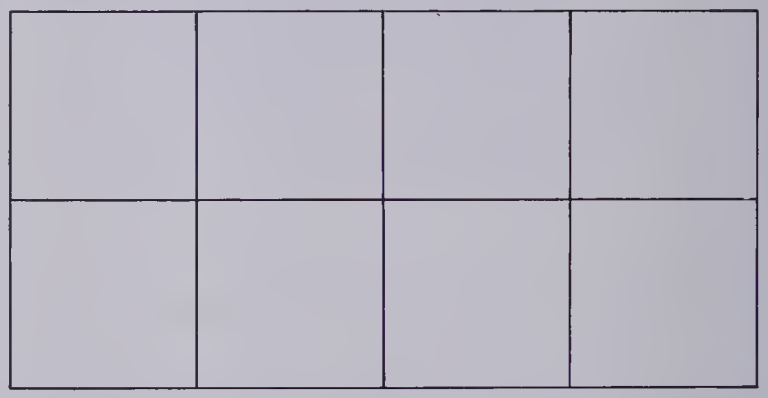
Counting Squares

Yvonne wanted to cover this rectangle.
She used squares this size.

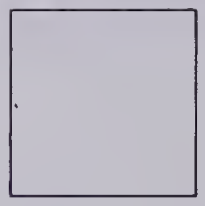




Yvonne used 8 squares.
8 squares is the **area.**



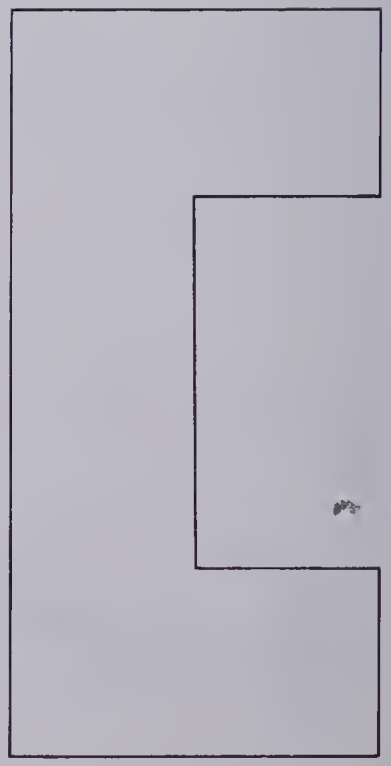
Use squares to cover each shape.
How many are needed?
What is the area in squares?



1.

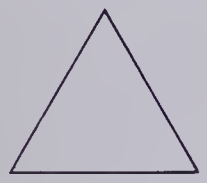
2.

3.

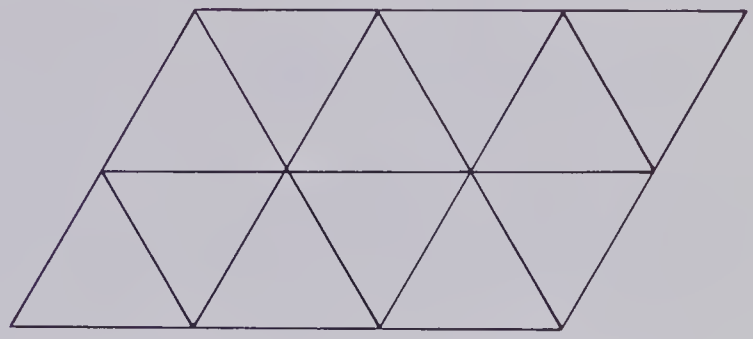


Using Triangles

Mills decided to use triangles to cover the shape.

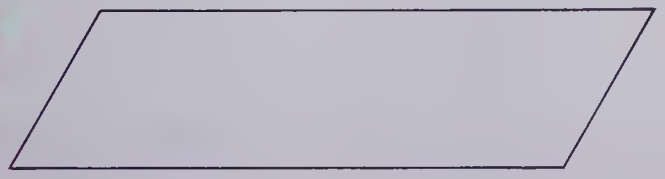


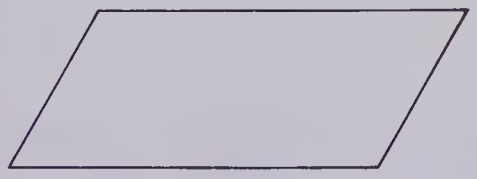
He used this triangle.

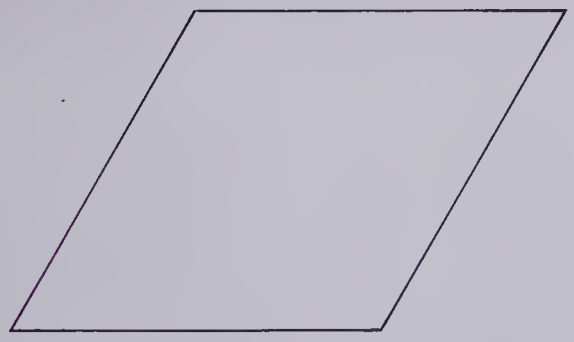


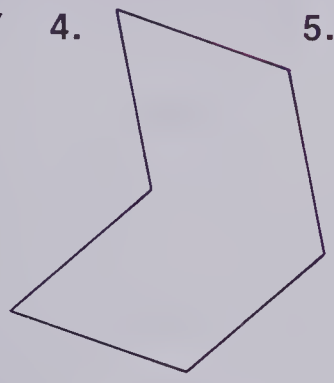
He said, "The area is 12 triangles."

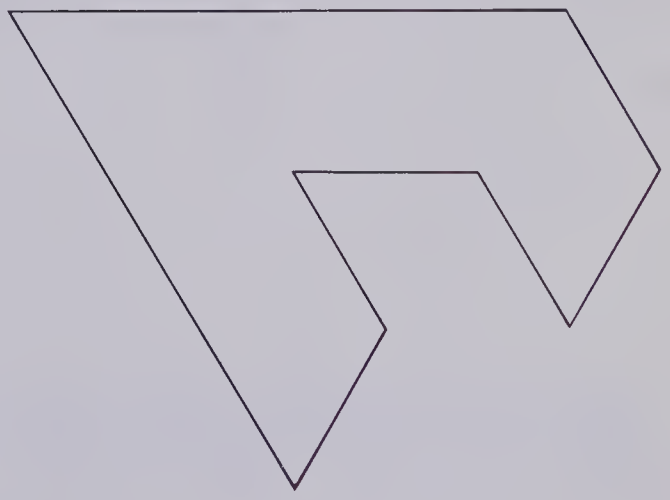
Use the triangles Mills did.
How many triangles are necessary to cover each shape?

1. 

2. 

3. 

4. 

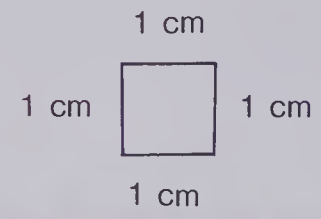
5. 

6.

7. Did you have difficulty with Question 6? Why?

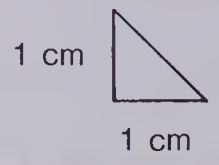
Whole and Half Units

Each side of this square is 1 cm.

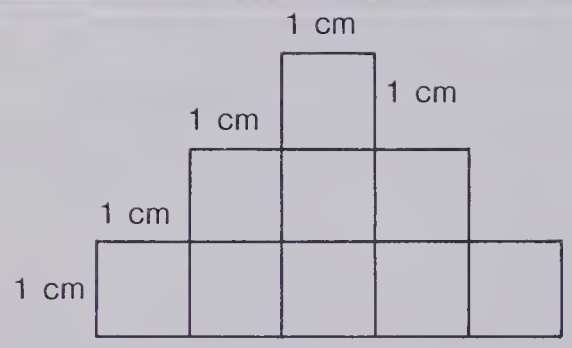


This is one square centimetre.

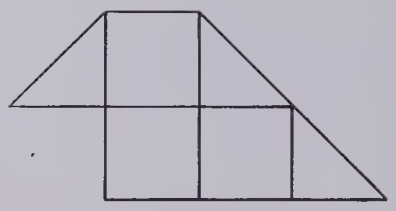
This is half of a square centimetre.



0.5 square centimetres



Area is 9 square centimetres.

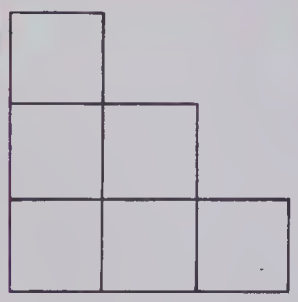


Area is 4.5 square centimetres.

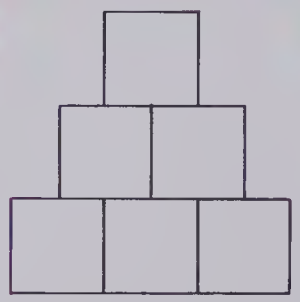
Area is often measured in square centimetres.

Count the square centimetres to find the area.

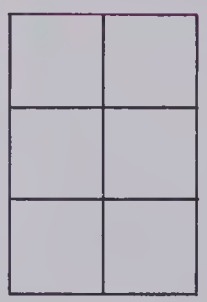
1.



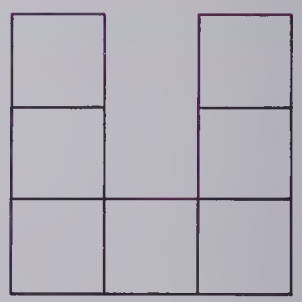
2.



3.

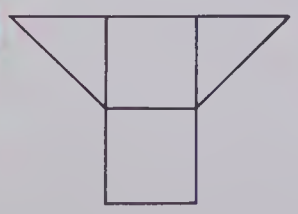


4.

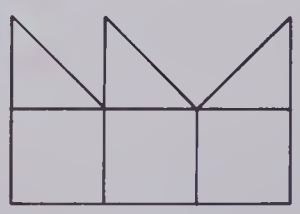


Count the whole and half square centimetres to find the area.

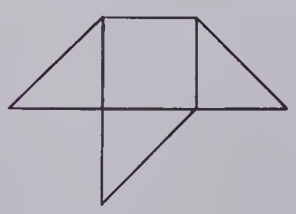
5.



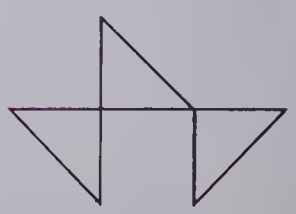
6.



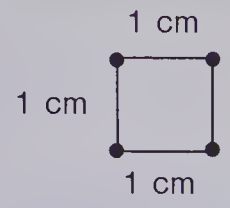
7.



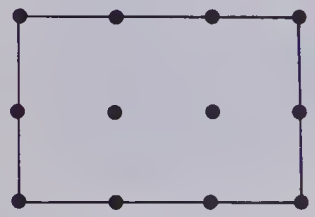
8.

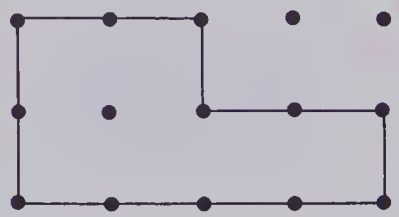


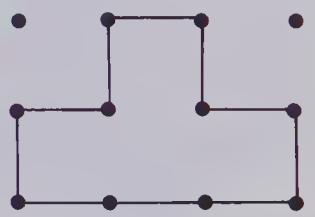
Millie made shapes on the geo-board. What is the area of each shape?

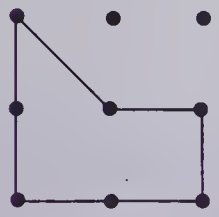


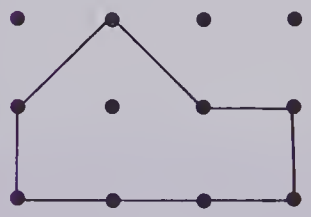
= one square centimetre.

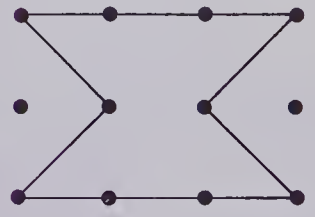
9. 

10. 

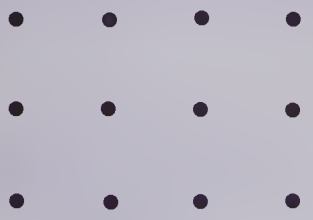
11. 

12. 

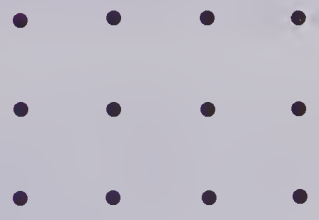
13. 

14. 

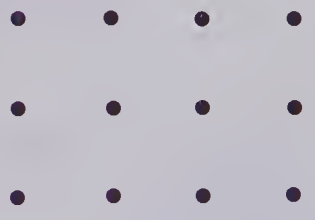
Trace these dots. Make a shape with the number of square centimetres indicated.

15. 

2.5
square centimetres

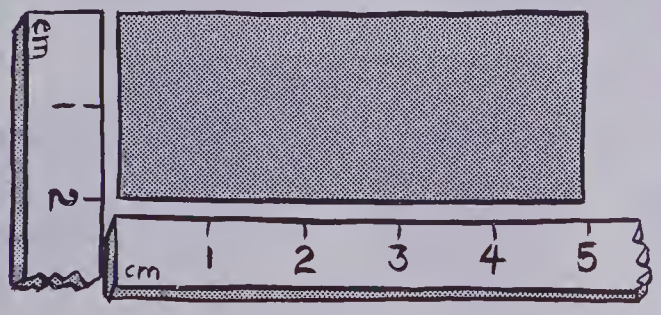
16. 

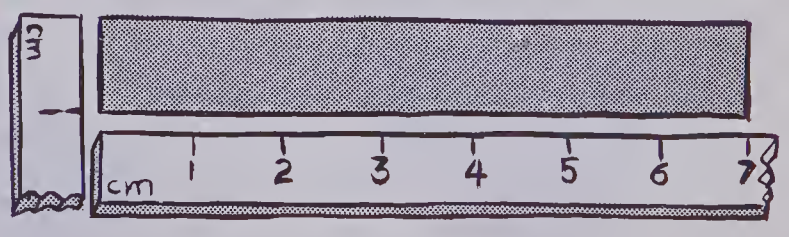
4
square centimetres

17. 

3.5
square centimetres

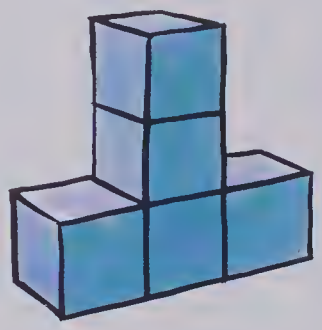
How many square centimetres in each shape?

18. 

19. 

Counting Blocks

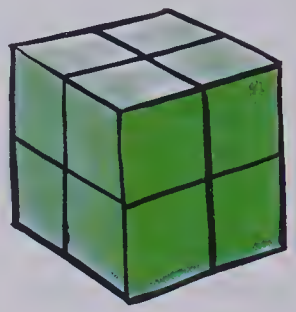
Jill used cubes to build this shape.



She used 5 cubes.

5 cubic units is the **volume.**

Max built this shape.



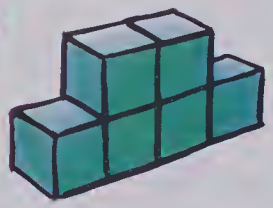
He used 8 cubes.

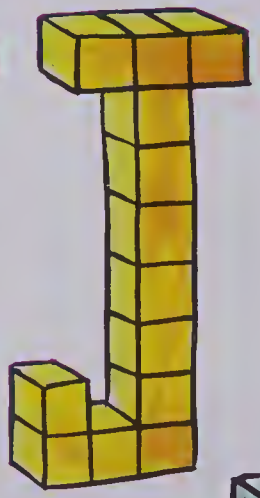
The **volume** is 8 cubic units.

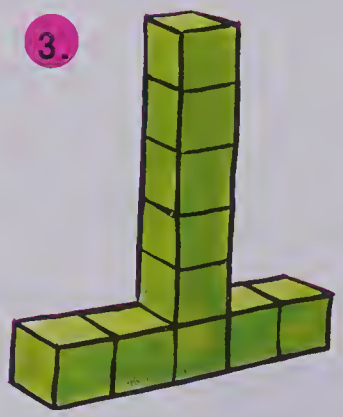
Blocks with all sides the same size are called **cubes.**

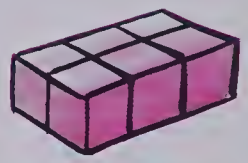
Each is a **cubic unit.**

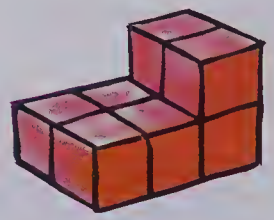
How many blocks?

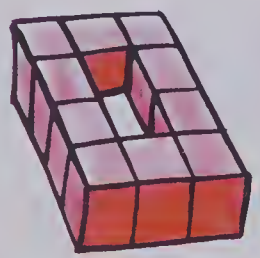
1. 

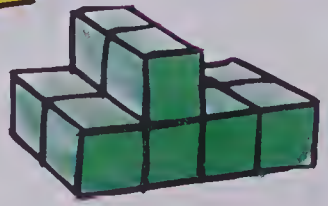
2. 

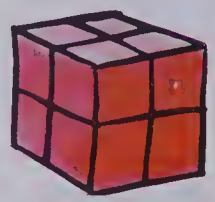
3. 

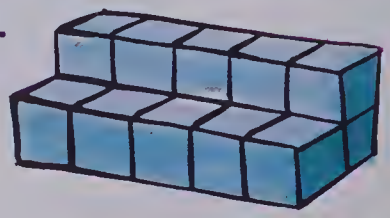
4. 

5. 

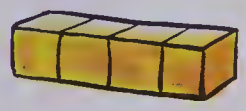
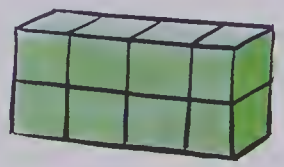
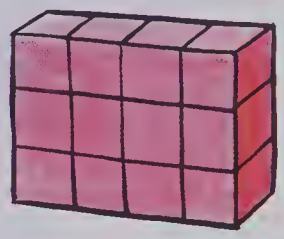
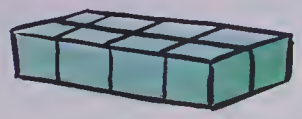
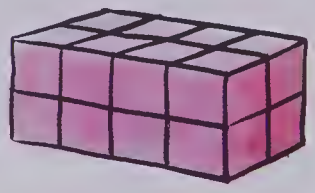
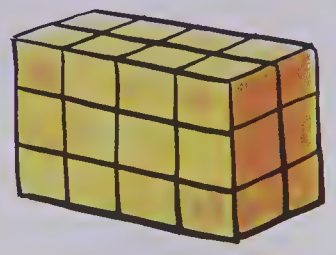
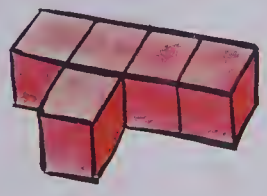
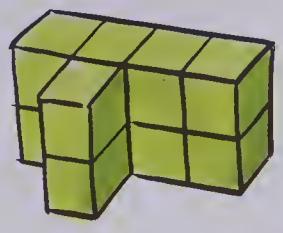
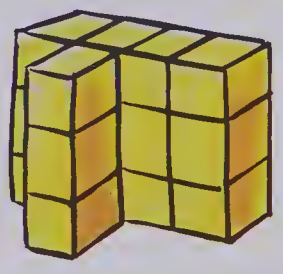
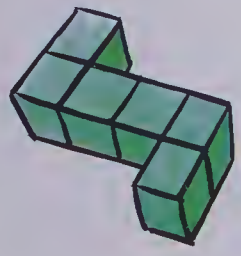
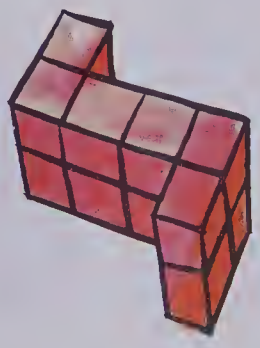
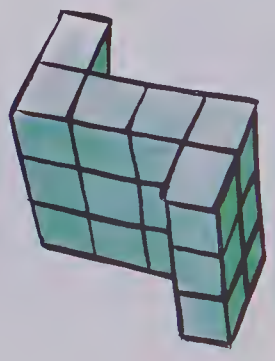
6. 

7. 

8. 

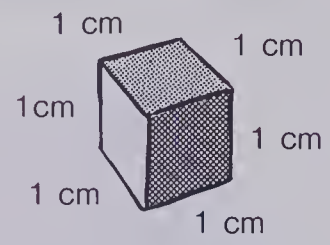
9. 

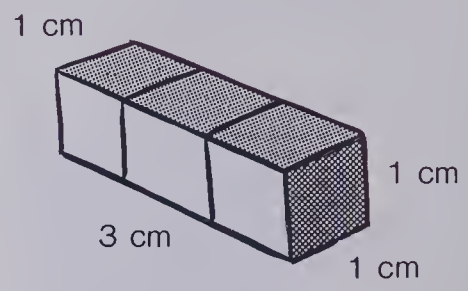
How many cubic units?

	One layer	Two layers	Three layers
10.			
11.			
12.			
13.			

Volume

Each side of this cube is 1 cm.





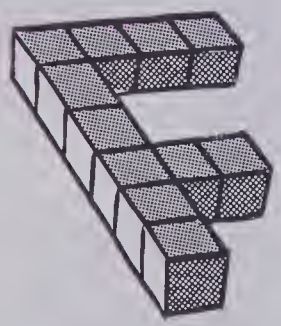
Volume: one cubic centimetre

Volume: three cubic centimetres

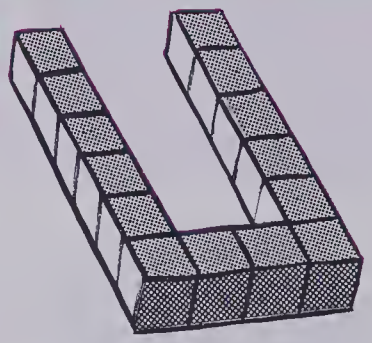
Volume is often measured in **cubic centimetres.**

How many cubes?

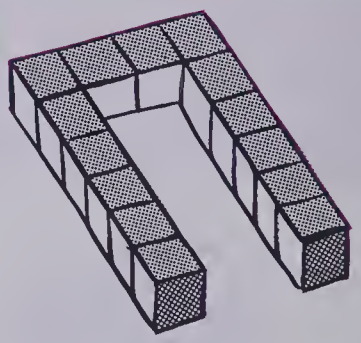
1.



2.

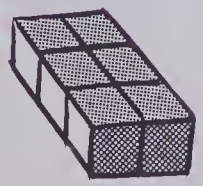


3.



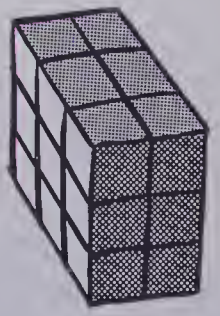
What is the volume? Each cube is a cubic centimetre.

4.



5.

6.



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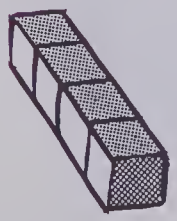

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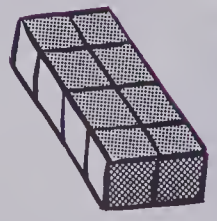

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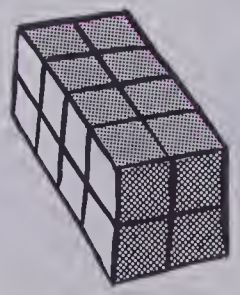
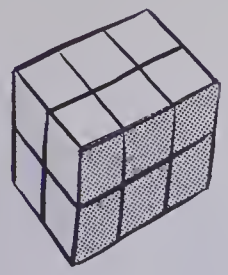
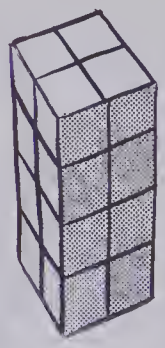
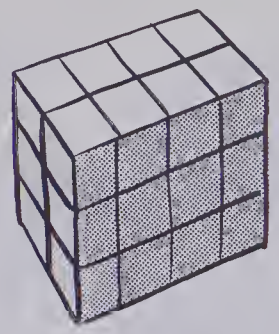
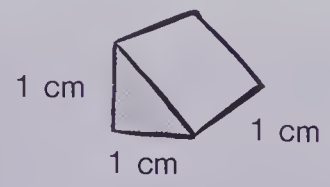


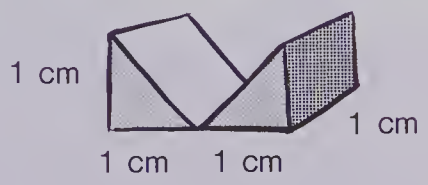
10. 

11. 

12. 

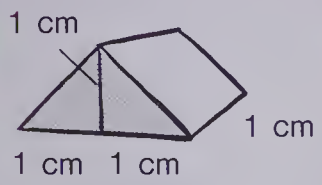
13. 

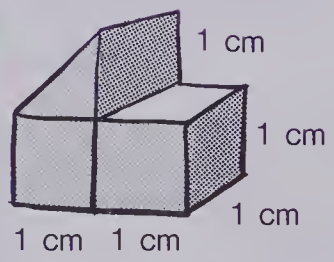
one-half cubic centimetre
0.5 cubic centimetres

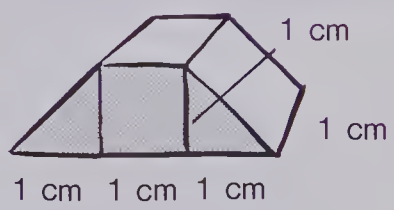


Volume?

How many cubic centimetres?

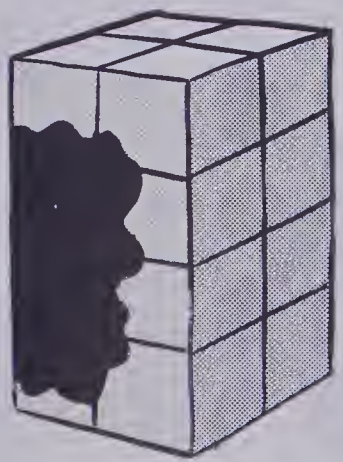
14. 

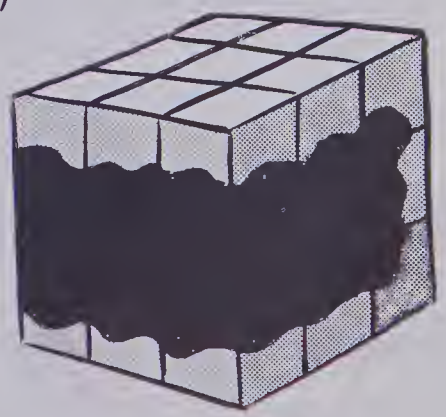
15. 

16. 

★17. How many cubic centimetres? Paint was spilt on each block.

(a)

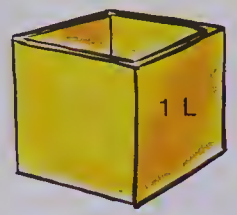
(b) 

(c) 

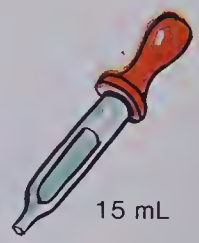
Litres and Millilitres

2 L

0.5 L



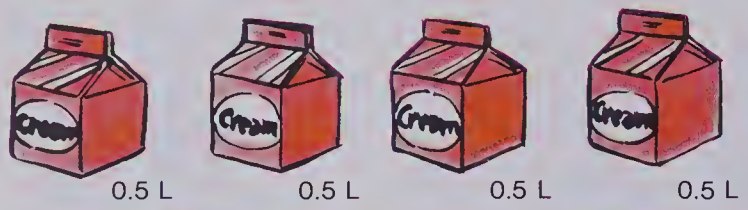
100 mL


15 mL

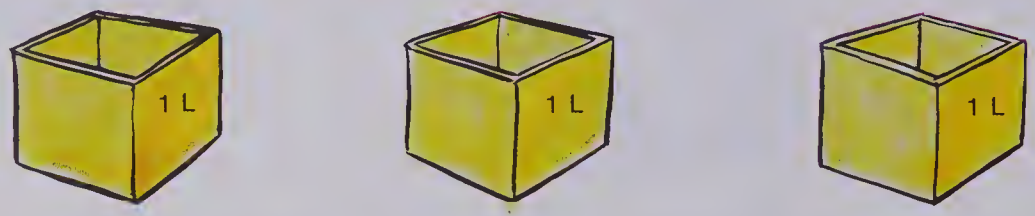
1000 mL = 1 L

The amount of liquid a container can hold is its **capacity.**
The units used to measure capacity are the litre (L) and millilitre (mL).

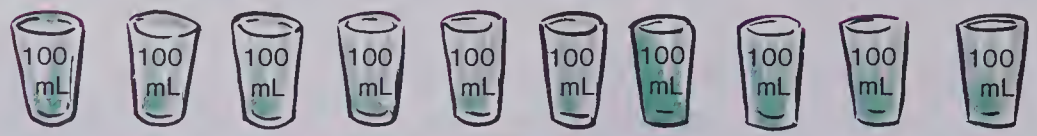
How many litres?

1. 
0.5 L 0.5 L 0.5 L 0.5 L

= ■ L

2. 

= ■ L

3. 

= ■ L

4. How many

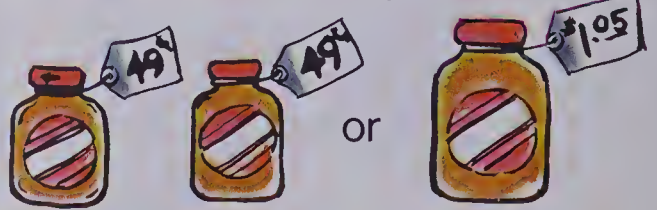
in

?

5. How many
0.5 L
in

?

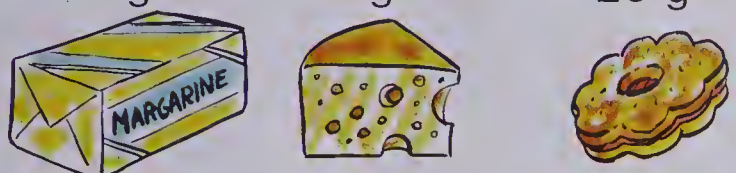
★ **6.** Which is the better buy?



0.5 L 0.5 L 1 L

Kilograms and Grams

100 g 75 g 25 g



500 g 250 g 15 g

1000 g = 1 kg

5 kg 2 kg 10 kg 1 kg 8 kg

The kilogram and gram are units used to measure mass.

1. How many grams in 10 oranges? 10 carrots? 10 slices of bread? 10 cookies?

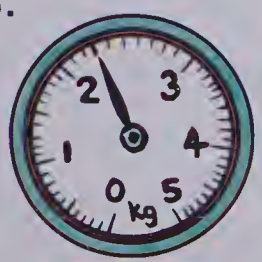
What is the mass of the following?

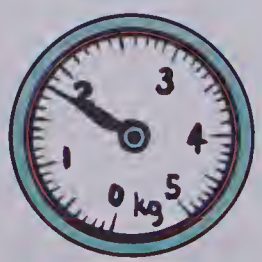
2.

3.

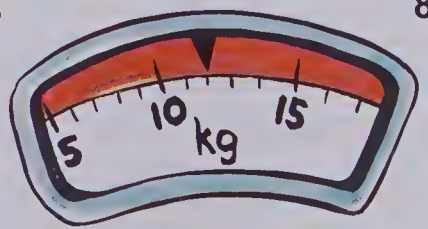
4.

Round to the nearest kilogram.

5. 

6. 

Round to the nearest 10 kg.

7. 

8.

A Pet Shop

7 brown rabbits.
3 white rabbits.
How many more brown rabbits?

Need to find	We know	How to find
how many more?	7 brown 3 white	subtract

Which number sentence fits the problem?

$7 + 3 = ▲$ $\quad$ (7 - 3 = ■) $\quad$ $7 - 4 = ●$

1. There are 6 canaries in one cage.
   There are 4 canaries in another cage.
   How many canaries altogether?
   (a) How do we find how many altogether?
   (b) Which number sentence fits the problem?
   $6 + 4 = ▲$ $\quad$ $6 - 4 = ■$ $\quad$ $6 - 2 = ●$

2. There are 9 brown puppies.
   There are 6 black puppies.
   How many more brown puppies?
   (a) What must we find?
   (b) Which number sentence fits the problem?
   $9 + 6 = ▲$ $\quad$ $9 - 6 = ■$ $\quad$ $9 + 3 = ●$

Calendar

30 days has September,
April, June, and November.
All the rest have 31
Except February, the only one
Which has 28 days clear
And 29 in each Leap Year.

Months of the Year:

January, February, March, April,
May, June, July, August, September,
October, November, December.

March

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

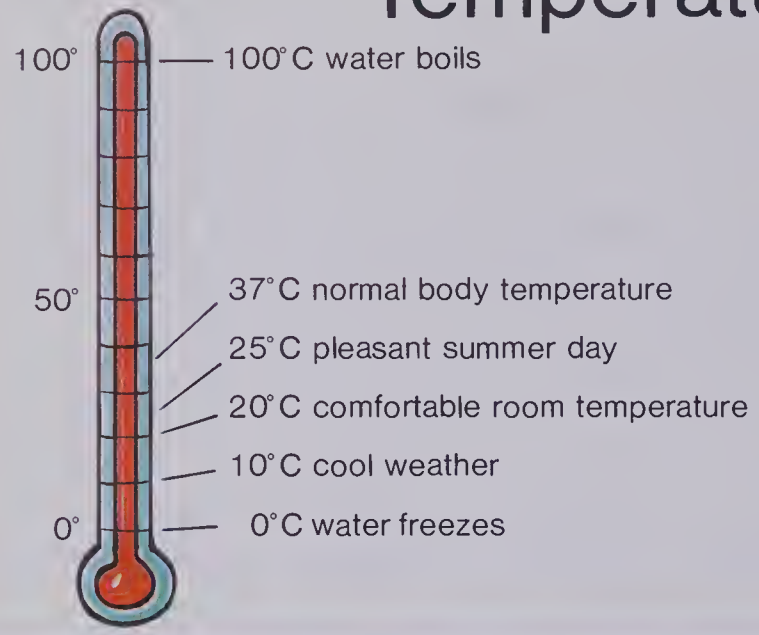
Read the poem.

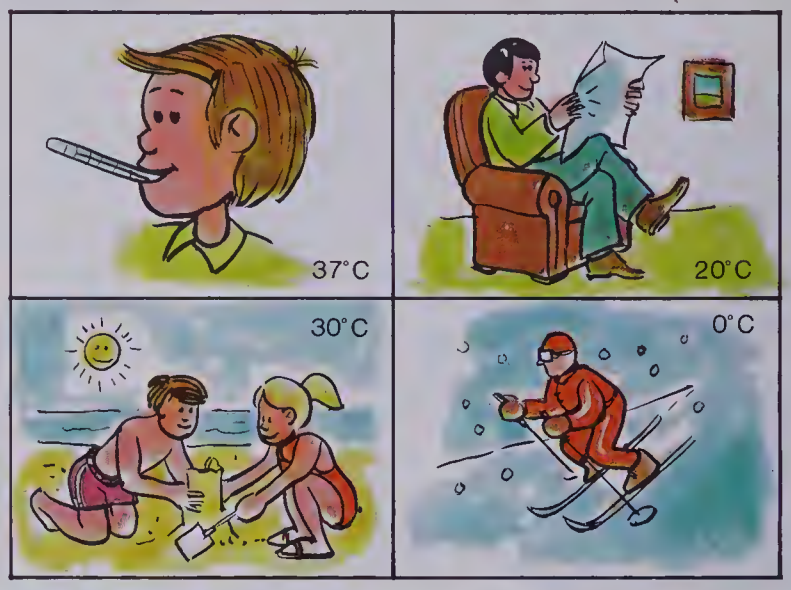
1. How many days in April? September? January? July? November?
2. How many months in a year?
3. Which month has the fewest days?
4. Which months have 31 days? 30 days?

Look at the calendar for March.

5. Name the days of the week in order.
6. Which day is March 1 on this calendar?
7. How many days in a week? in 2 weeks? in 3 weeks? in 4 weeks?
8. On which day is March 11?
9. How many days in February in a Leap Year?

Temperature





Temperature is measured by a thermometer.
The units of measure are **degrees Celsius (°C).**

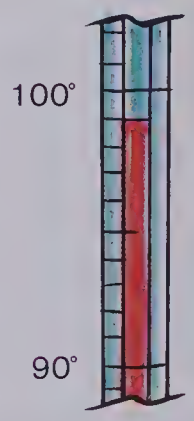
Write the temperatures.

1.

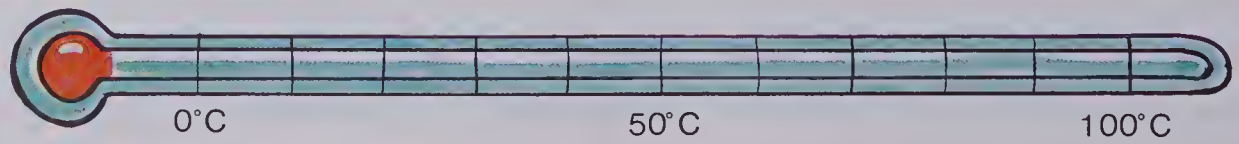
2.

3.

4.

5. 

6. Trace this thermometer.

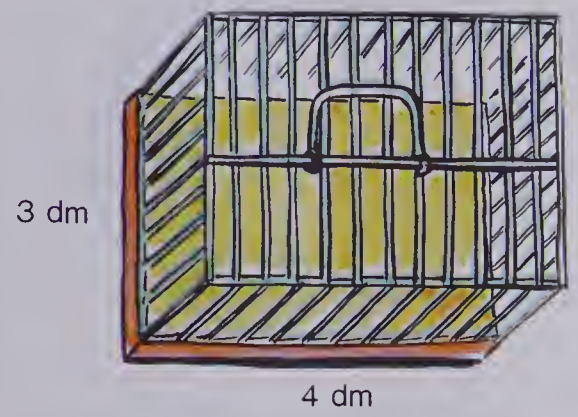


Mark

(a) 40°C (fever temperature). (b) 30°C (hot day). (c) 5°C (cold fall day).

Pet Shop Clerk

1. Syd bought a hampster cage.

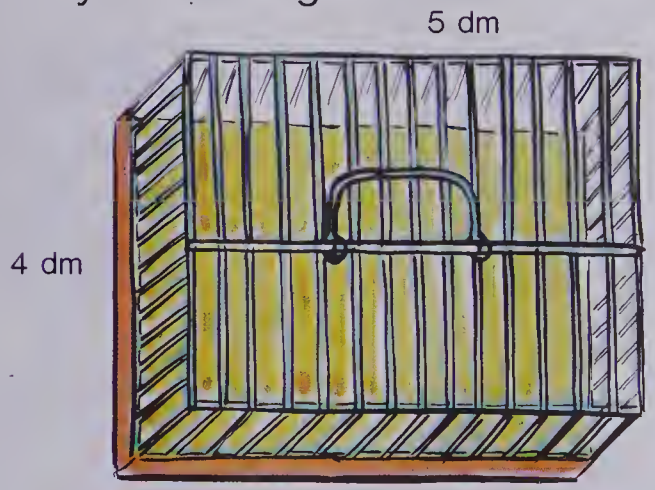


What is its area?

2. At home, he read...

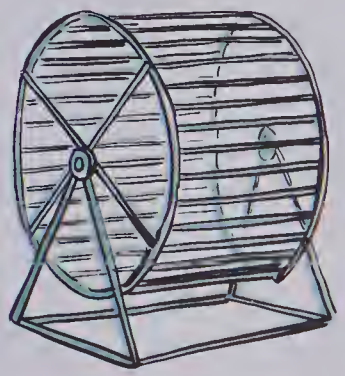
By how much is the cage too small?

3. Syd went back to the shop to buy a new cage.



Is this cage large enough?

4. The new cage is 26 cm tall.
An exercise wheel is 3 dm tall.
Will the wheel go in the cage?



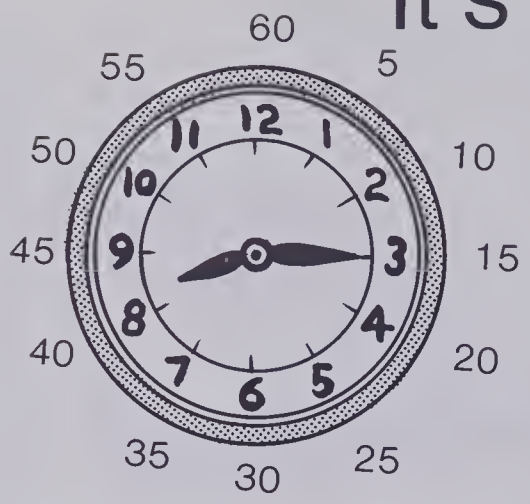
5. Dawn needs a fishbowl.
Each fish needs 2 L of water.
She wants 3 fish.
How large a bowl is needed?

6. Cost of fish:

fantail	$1.25
comet	$1.75
black telescope	$2.25
goldfish	$0.75

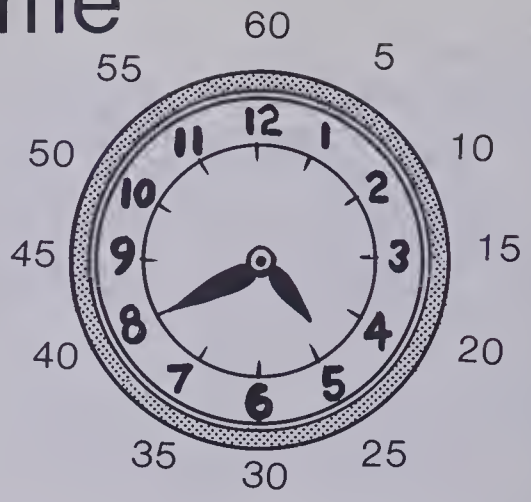
Dawn has $4.50 for fish.
Which 3 fish can she buy?

It's About Time



Fifteen minutes after eight.

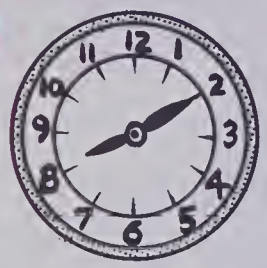
08:15



Forty minutes after four.

04:40

Read aloud the time.

1. 

2.

3.

4.

5.

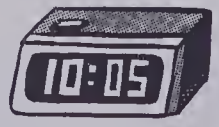
6.

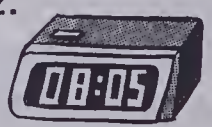
7.

8.

9.

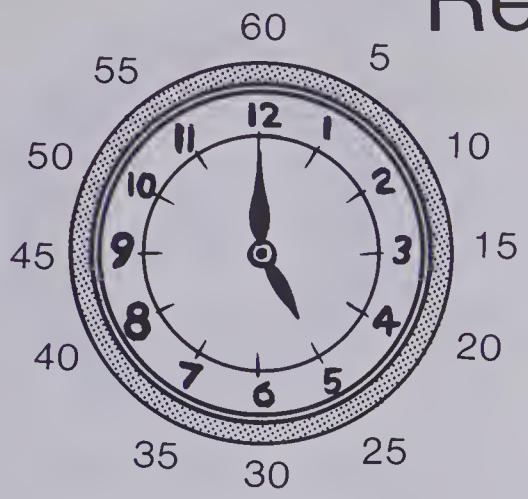
10.

11. 

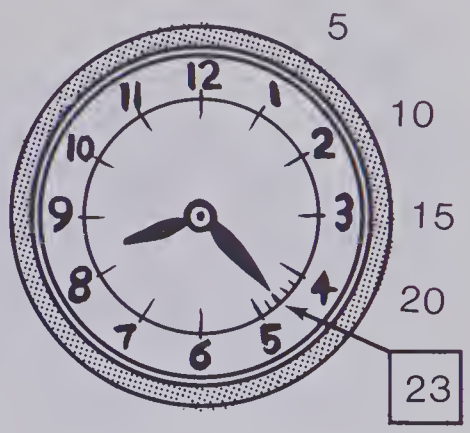
12. 

13. Write the times in Questions 1 to 8 in the form 06:20.

Reading Time



60 min
in 1 h



23 min after 8
08:23

What time? Write two ways.

1.

■ min after ◆

●:▲

2.

3.

4.

5.

6.

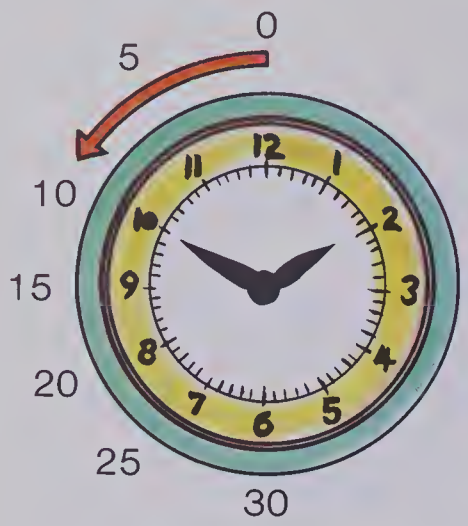
7.

8.

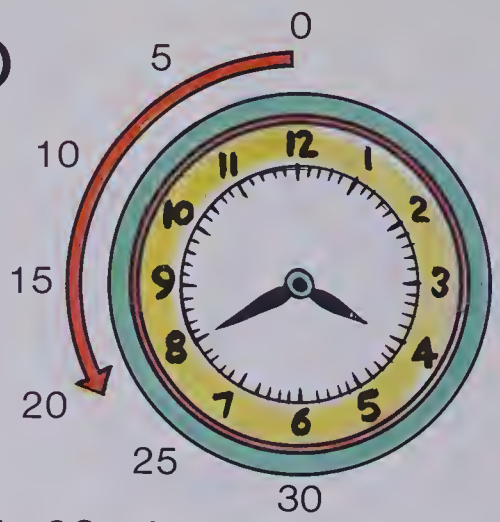
Write the time in the form ●:▲.

9. 10 min after 6
10. 24 min after 8
11. 55 min after 3
12. 8 min after 11
13. 2 min after 7
14. 3 min after 9

Minutes To



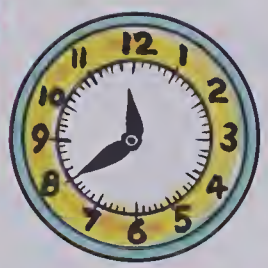
We can count minutes backward on the clock.



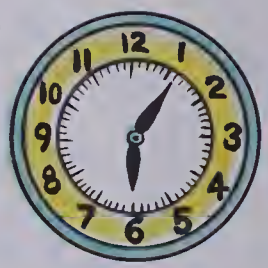
It is 20 min before 04:00.
20 min to 4.
03:40

Give the time of each as: (a) ■ min to ♦ (b) ●:▲

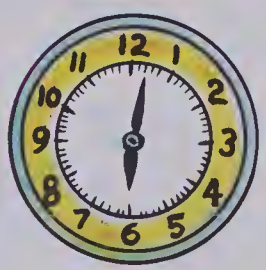
1.

2. 

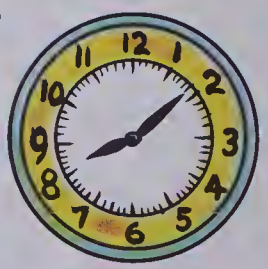
3.

4. 

5.

6. 

7.

8. 

Draw clocks to show these times.

9. 25 min to 6
10. 5 min to 3
11. 23 min to 12
12. 13 min to 8
13. 9 min to 11
14. 18 min to 1

How many minutes?

15. 1 h and 15 min
16. 1 h and 35 min

How many hours from

17. 01:15 to 08:15?
18. 05:22 to 10:22?

Writing Number Sentences

We write number sentences to solve problems.

Mary brought 12 chocolate cookies.
Marie brought 8 raisin cookies.
How many cookies altogether?

Number sentence.

12	+	8	=	20
chocolate cookies		raisin cookies		cookies altogether

Solve each number sentence.

1. 4 red balloons.
7 blue balloons.
How many altogether?
4 + 7 = ▲

2. 12 bottles of lemonade.
8 children.
How many more bottles?
12 - 8 = ▲

Write a number sentence for each. Solve it.

3. 5 ham sandwiches.
8 cheese sandwiches.
How many altogether?

4. 14 hot dogs.
9 hot dogs eaten.
How many left?

5. 15 marshmallows.
12 eaten.
How many not eaten?

6. 9 red ants.
8 black ants.
How many ants?

Minutes Later

Linda ate breakfast

08:15

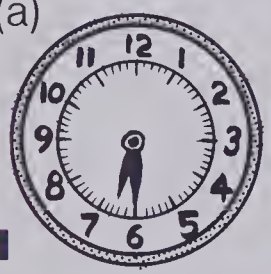
20 min later

Linda left for school

08:35

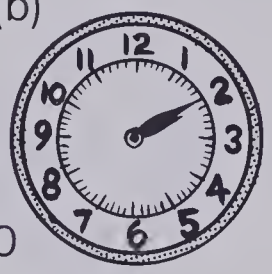
1. What time will it be in 10 min? Complete.

(a)



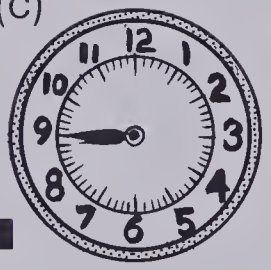
06:■

(b)



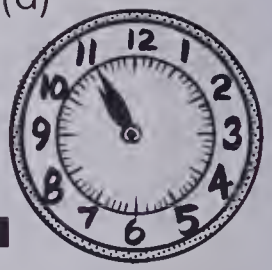
■:20

(c)



08:■

(d)



11:■

2. What time will it be in 20 min?

(a) 07:30 (b) 03:10 ★ (c) 08:50 ★ (d) 09:55

3. How many minutes in a half hour? in a quarter hour?

★ **4.** What time will it be in a half hour?

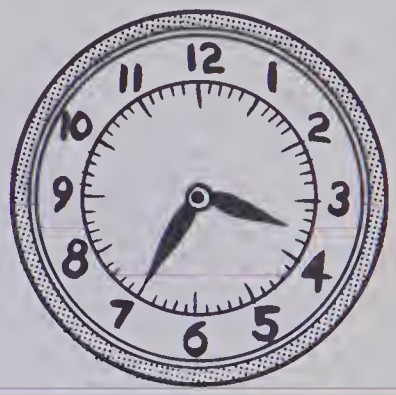
(a) 06:30 (b) 08:15 (c) 12:05 (d) 03:20

★ **5.** Ken ate breakfast at 08:15.
One quarter hour later, he left for school.
What time did he leave for school?

Minutes Before

Jackie arrived home at 03:50.
She left school 15 min earlier.
What time did she leave school?

Arrived home



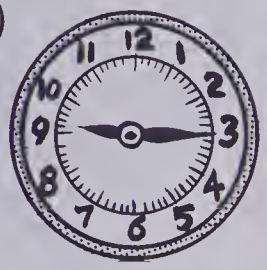
Left school

She left school at 03:■.

1. What time was it 10 min ago?

(a)

■:15

(b) 

09:■

(c)

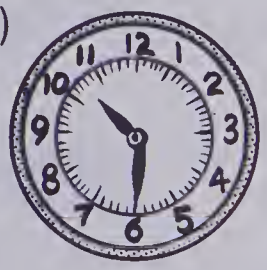
●:■

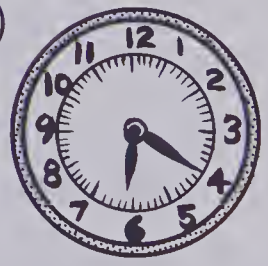
(d)

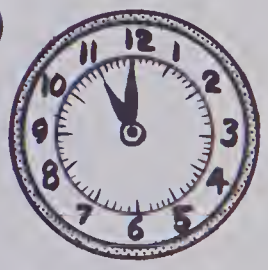
●:■

2. What time was it 20 min ago?

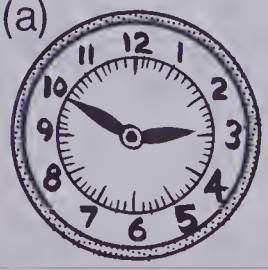
(a)

(b) 

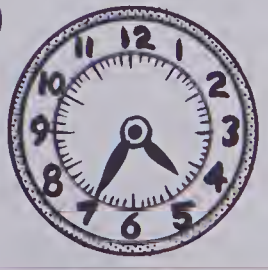
(c) 

(d) 

3. What time was it 30 min ago?

(a) 

(b)

(c) 

(d)

Time Stories

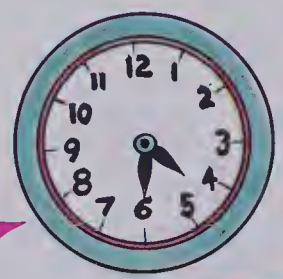
Draw clocks to tell the story.

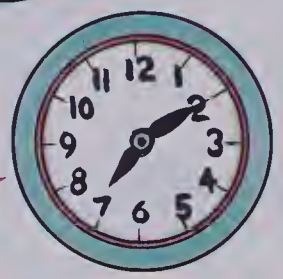
1. Sylvia started gymnastics at 02:35.
   She finished 20 min later.
   When did she finish?

2. John started to boil an egg at 09:06.
   He boiled it 4 min.
   When was the egg finished?

Solve.

3. Jolynne finished skating at
   She had skated 30 min.
   She started at ▲:■.



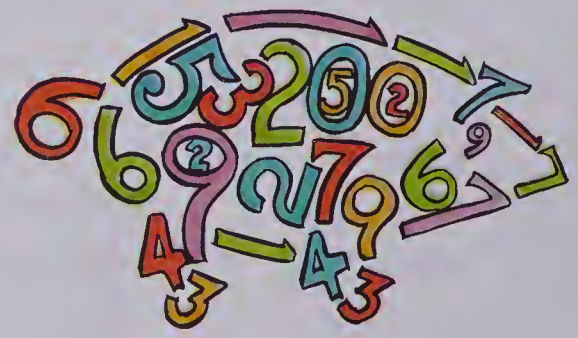


4. A hockey game started at
   The game finished 50 min later.
   The game finished at ▲:■.

5. Milly started breakfast at 08:05.
   She finished 30 min later.
   What time did she finish?

★ 6. Jeff arrived for dinner at 06:35.
   He was one half hour late.
   What time did dinner start?

BRAINTICKLER



How many kilograms is the pig?

A Bus Trip

Sue and Ron plan to visit their grandparents.

They made a schedule for their trip.

	Departure Time	Travel Time		Arrival Time	
Calgary	09:10	30 min	Carstairs	09:[redacted]
Carstairs	10:00	25 min	Olds	[redacted]
Olds	10:45	[redacted] min	Bowden	11:20
Bowden	11:30	[redacted] min	Red Deer	12:15

1. Copy and complete the schedule Sue and Ron made.

2. How long was the stop in Carstairs? Olds? Bowden?

3. How long was the trip from Olds to Bowden? from Bowden to Red Deer?

4. How many minutes was the bus travelling altogether — not counting the stops?

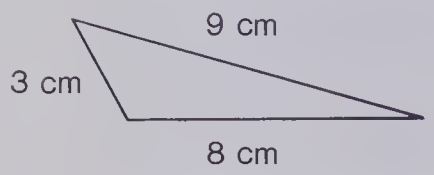
5. How many hours and minutes after leaving Calgary did Sue and Ron arrive in Red Deer?

6. Ron's cousin got on the bus at Olds. How long was his trip to Red Deer?

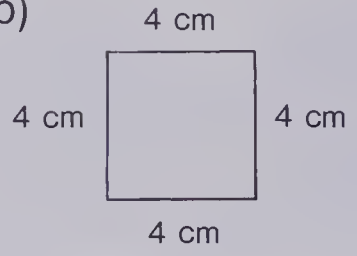
Chapter Test

1. Find the perimeters.

(a)



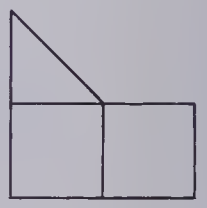
(b)



2. Find the areas in square centimetres.

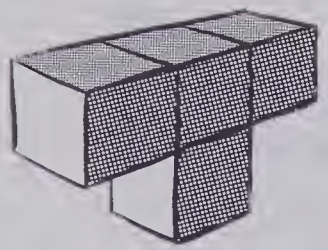
(a)

(b)

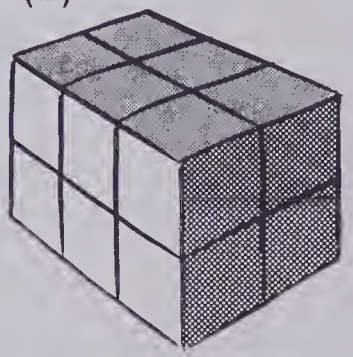


3. Find the volumes.
Each cube is a cubic centimetre.

(a)



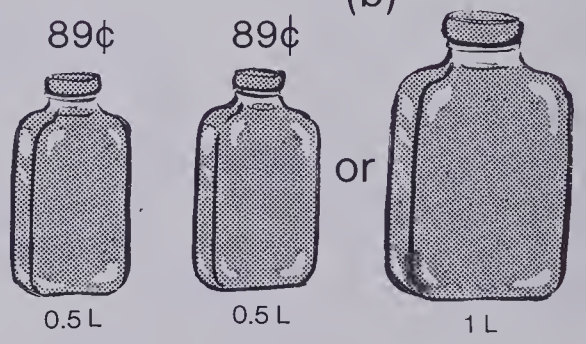
(b)



4. Which is the better buy?

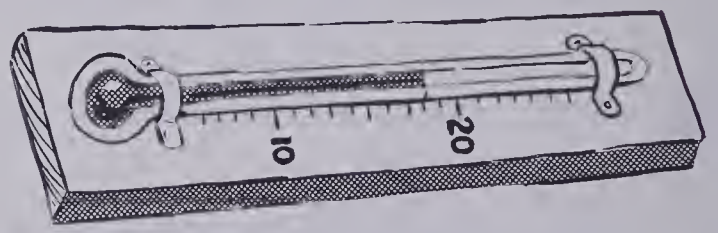
(a) 89¢ 89¢

(b) $2.08



5. What time is it 15 min before this?

6. Read the temperature.

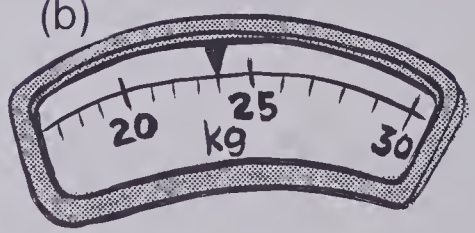


7. Read the scales:

(a)

to the nearest kilogram.

(b)

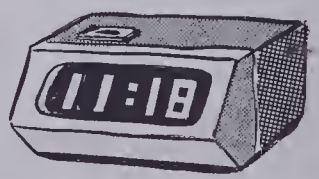


to the nearest 10 kg.

8. Write as: ■ minutes after ▲.

(a)

(b)



9. What is the date one week after January 5?

Cumulative Review

Complete.

1. $2 \times 3 =$ ____

2. $3 \times 4 =$ ____

3. $5 \times 5 =$ ____

4. $4 \times 0 =$ ____

5. $3 \times 1 =$ ____

6. $8 \div 2 =$ ■

7. $10 \div 2 =$ ■

8. $12 \div 1 =$ ■

9. $20 \div 4 =$ ■

10. $\$9.72 + 6.69 =$ ____

11. $5.2 + 6.4 =$ ____

12. $6.3 + 9.8 =$ ____

13. $8.2 - 1.7 =$ ____

14. $\$13.40 - 2.36 =$ ____

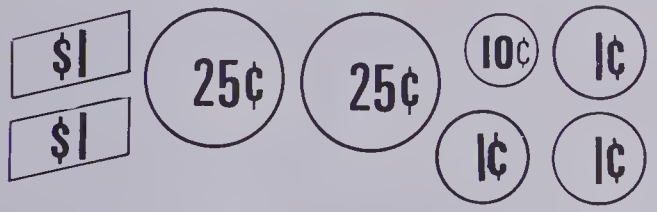
15. Name the fraction for the coloured part.

16. Name the decimal for the coloured part.

17. Add.

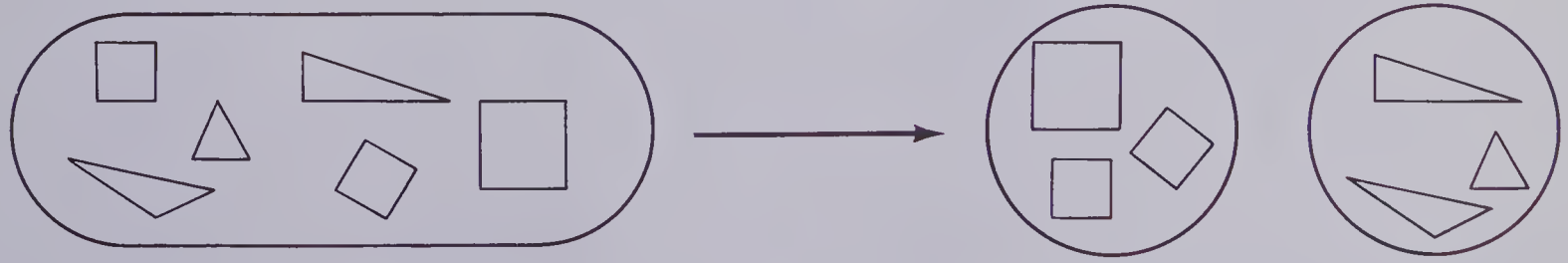
$\frac{2}{10} + \frac{3}{10} =$ ■

18. How much money?



19. Mark paid the exact amount for a chocolate rabbit.
It cost $1.45.
What bills and coins?

20. Name a rule for this sorting.



21. 5 Easter eggs in each basket.
3 baskets.
How many Easter eggs?

22. 12 Easter eggs.
2 eggs put in each basket.
How many baskets?

Chapter 8

Whole Numbers

Multiplication and Division

Multiplication and Division

What is **multiplication?**

2 on each plant.

× 6 plants.

6 groups of 2 → 6 × 2 = 12 flowers altogether.

What is **division?**

1 2 3 4 5 6

12 flowers.
Groups of 2.

12 in groups of 2.

12 ÷ 2 = 6 groups of 2.

1.

4 on each plant.

5 plants.

$$\begin{array}{r} 4 \\ \times\ 5 \\ \hline \end{array}$$

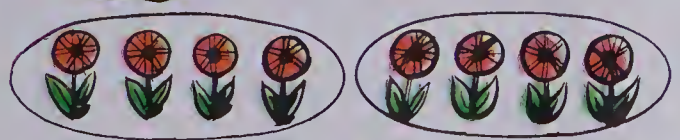
2.

3 on each plant.

4 plants.

$$\begin{array}{r} 3 \\ \times\ 4 \\ \hline \end{array}$$

3.



8 in groups of 4. 8 ÷ 4 = ■

4.

9 in groups of 3. 9 ÷ 3 = ■

Multiplication and Division

There are 15 flowers.
We will put 5 flowers in each vase.
We will need 3 vases.

Multiplication Story: 3 groups of 5.
$3 \times 5 = 15$

Division Story: 15 in groups of 5.
$15 \div 5 = 3$

Write a division story that goes with each of these.

1.

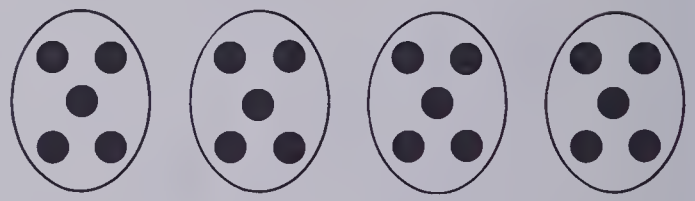
$2 \times 3 = 6$
$\blacksquare \div 3 = \blacksquare$

2.

$3 \times 4 = 12$
$\blacksquare \div 4 = \blacksquare$

3.

$4 \times 3 = 12$
$\blacksquare \div \blacksquare = \blacksquare$

4. 

$4 \times 5 = 20$
$\blacksquare \div \blacksquare = \blacksquare$

5.

$4 \times 2 = 8$
$\blacksquare \div \blacksquare = \blacksquare$

6.

$4 \times 4 = 16$
$\blacksquare \div \blacksquare = \blacksquare$

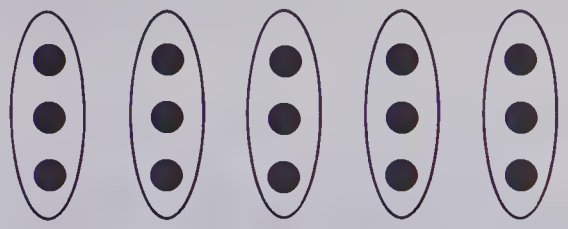
Write a multiplication story for each of these.

7.

$6 \div 2 = 3$

■ × ■ = ■

8.



$15 \div 3 = 5$

■ × ■ = ■

9.

$8 \div 4 = 2$

■ × ■ = ■

10.

$15 \div 5 = 3$

■ × ■ = ■

11.

$9 \div 3 = 3$

■ × ■ = ■

12.

$7 \div 1 = 7$

■ × ■ = ■

Draw arrays if you need to.

13. Write a related division sentence.

(a) $5 \times 2 = 10$ (b) $4 \times 3 = 12$ (c) $3 \times 3 = 9$

(d) $4 \times 5 = 20$ (e) $3 \times 5 = 15$ (f) $4 \times 4 = 16$

14. Write a related multiplication sentence.

(a) $15 \div 5 = 3$ (b) $10 \div 2 = 5$ (c) $12 \div 3 = 4$

(d) $16 \div 4 = 4$ (e) $8 \div 2 = 4$ (f) $15 \div 3 = 5$

Multiplying by 2 and 3

1. Count by 2's to 20. Write the numbers.

3 branches. 2 leaves on each.
3 groups of 2 ⟶ 3 × 2 = 6 leaves.

Copy and complete.

2. 5 × 2 = ■
3. 8 × 2 = ■
4. 4 × 2 = ■
5. 9 × 2 = ■
6. 7 × 2 = ■
7. 3 × 2 = ■
8. 10 × 2 = ■
9. 6 × 2 = ■
10. 2 × 2 = ■
11. 1 × 2 = ■
★ 12. 11 × 2 = ■
★ 13. 12 × 2 = ■

14. Count by 3's to 30. Write the numbers.

4 groups of 3 ⟶ 4 × 3 = 12 leaves.

Copy and complete.

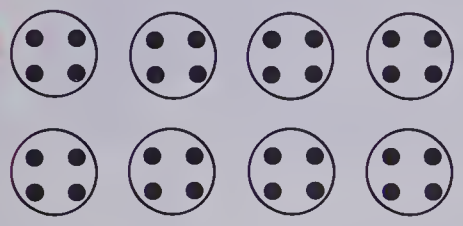
15. 2 × 3 = ■
16. 8 × 3 = ■
17. 5 × 3 = ■
18. 6 × 3 = ■
19. 7 × 3 = ■
20. 10 × 3 = ■
21. 3 × 3 = ■
22. 9 × 3 = ■
23. 4 × 3 = ■

Multiplying by 4

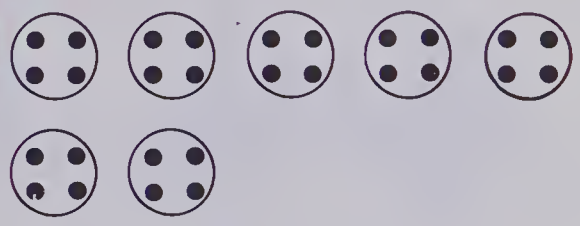
1. Count by 4's to 40. Write the numbers.

5 groups of 4 → 5 × 4 = 20 leaves.

Write multiplication stories for 4.

2. 

8 × 4 = ■

3. 

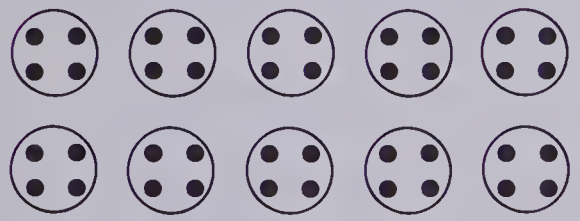
■ × ■ = ■

4.

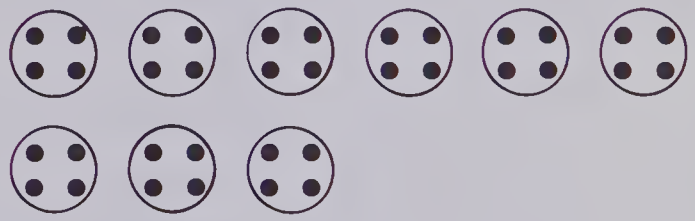
■ × ■ = ■

5.

■ × ■ = ■

6. 

■ × ■ = ■

7. 

■ × ■ = ■

Copy and complete.

8. 2 × 4 = ■

9. 6 × 4 = ■

10. 5 × 4 = ■

11. 10 × 4 = ■

12. 4 × 4 = ■

13. 9 × 4 = ■

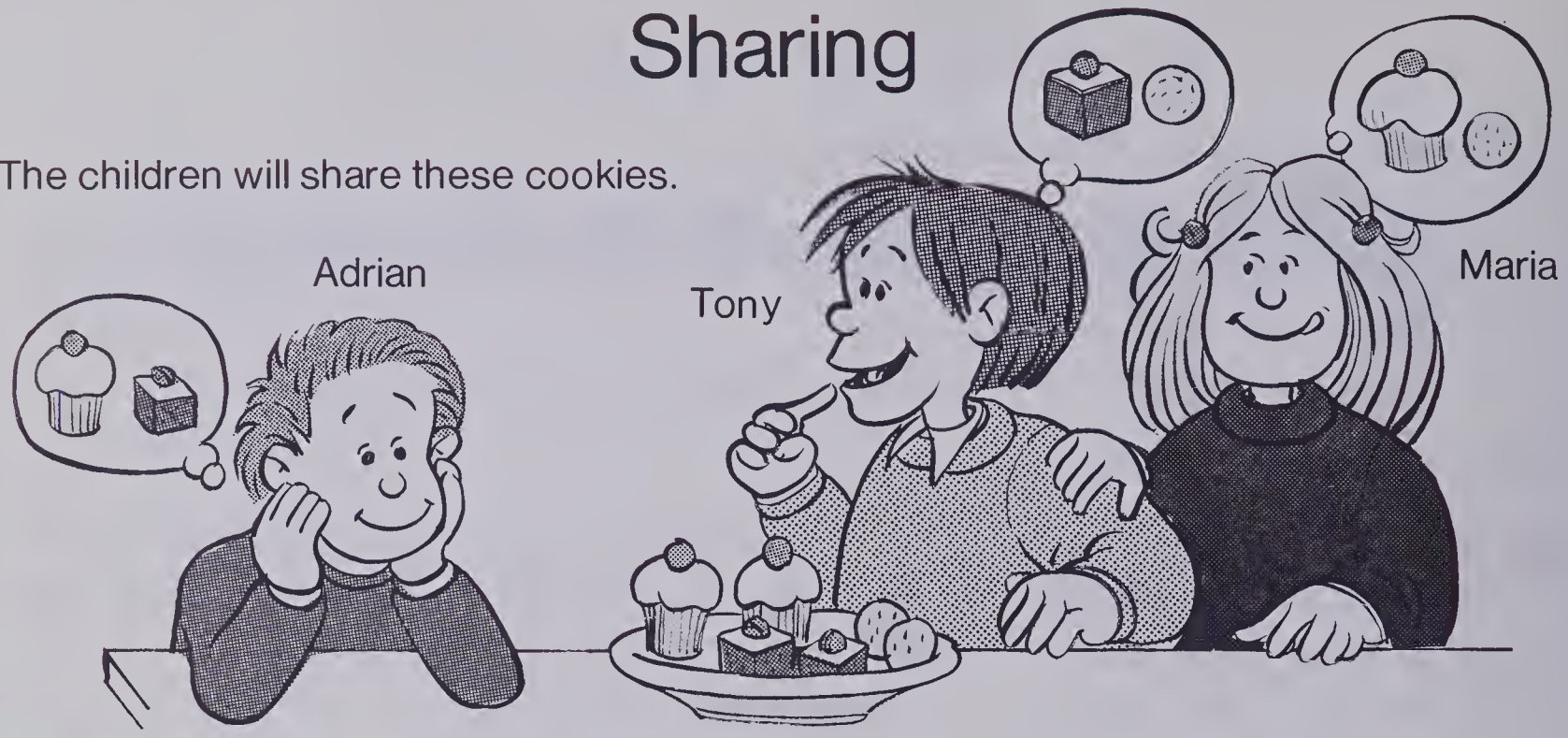
14. 3 × 4 = ■

15. 8 × 4 = ■

16. 7 × 4 = ■

Sharing

The children will share these cookies.



1. There were 4 children.
Each had 5 jelly beans.
How many jelly beans in all?

2. There are 15 marbles.
Adrian, Tony, and Maria will share.
How many will Tony get?

3. There are 12 date squares.
There are 4 children.
How many squares each?

4. Eighteen wieners are shared among nine children.
How many wieners each?

5. Twenty-five doughnuts are shared among five boys.
How many doughnuts each?

6. There are 24 marshmallows to be shared among four boys.
How many marshmallows each?

7. $8 \div 4 = \blacksquare$

8. $12 \div 3 = \blacksquare$

9. $10 \div 2 = \blacksquare$

10. $16 \div 4 = \blacksquare$

11. $9 \div 1 = \blacksquare$

12. $20 \div 4 = \blacksquare$

13. $9 \div 3 = \blacksquare$

14. $12 \div 4 = \blacksquare$

15. $15 \div 3 = \blacksquare$

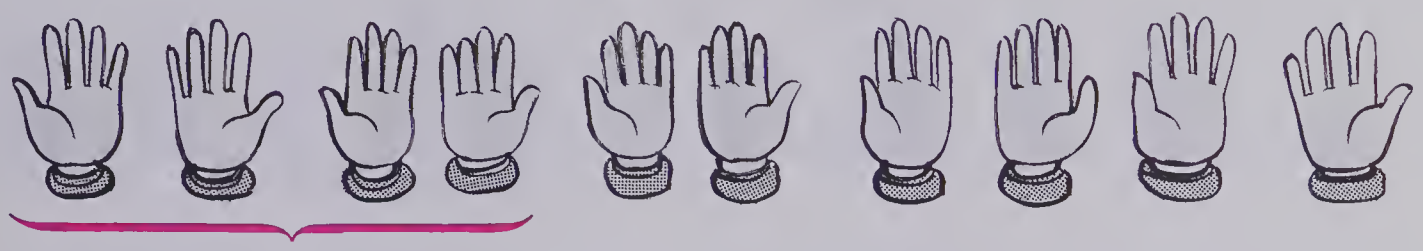
16. $8 \div 4 = \blacksquare$

17. $2 \div 2 = \blacksquare$

18. $4 \div 4 = \blacksquare$

Multiplying by 5

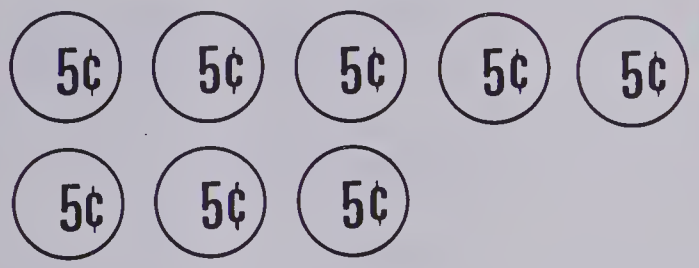
1. Count by 5's to 50. Write the numbers.



4 groups of 5 ⟶ 4 × 5 = 20 fingers.

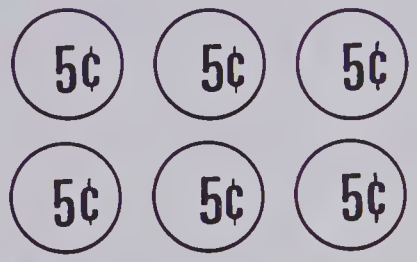
Write multiplication stories for 5.

2.



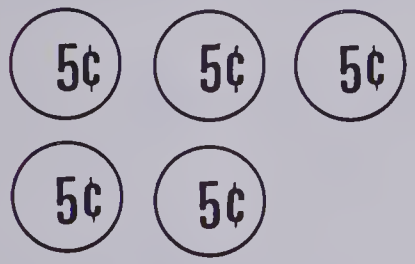
8 × 5 = ■

3.

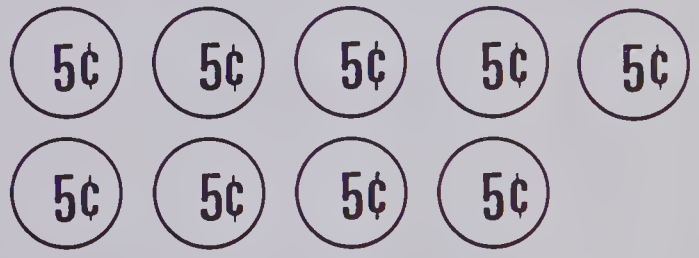


■ × ■ = ■

4.



5.



6. 7 × 5 = ___	7. 5 × 5 = ___	8. 9 × 5 = ___	9. 6 × 5 = ___	10. 2 × 5 = ___
11. 8 × 5 = ___	12. 3 × 5 = ___	13. 10 × 5 = ___	14. 1 × 5 = ___	15. 0 × 5 = ___

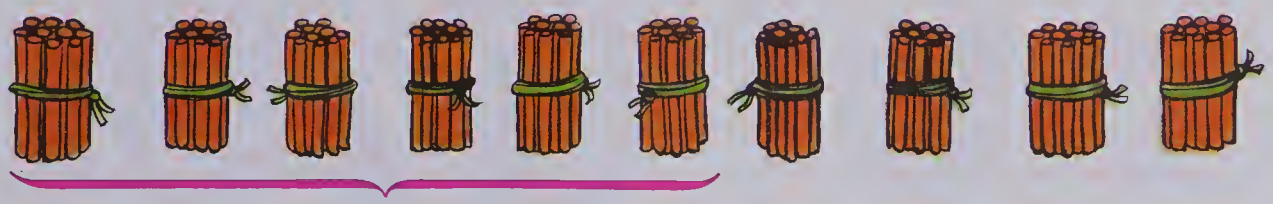
Tune Up

1. $4 \times 1 = \blacksquare$
2. $2 \times 4 = \blacksquare$
3. $5 \times 3 = \blacksquare$
4. $4 \times 3 = \blacksquare$
5. $1 \times 3 = \blacksquare$
6. $4 \times 5 = \blacksquare$
7. $2 \times 2 = \blacksquare$
8. $1 \times 8 = \blacksquare$
9. $0 \times 5 = \blacksquare$
10. $1 \times 5 = \blacksquare$
11. $3 \times 2 = \blacksquare$
12. $9 \times 2 = \blacksquare$

13. $\begin{array}{r} 0 \\ \times\ 4 \\ \hline \end{array}$
14. $\begin{array}{r} 4 \\ \times\ 6 \\ \hline \end{array}$
15. $\begin{array}{r} 3 \\ \times\ 6 \\ \hline \end{array}$
16. $\begin{array}{r} 1 \\ \times\ 5 \\ \hline \end{array}$
17. $\begin{array}{r} 4 \\ \times\ 9 \\ \hline \end{array}$
18. $\begin{array}{r} 3 \\ \times\ 4 \\ \hline \end{array}$
19. $\begin{array}{r} 4 \\ \times\ 8 \\ \hline \end{array}$
20. $\begin{array}{r} 5 \\ \times\ 5 \\ \hline \end{array}$
21. $\begin{array}{r} 2 \\ \times\ 6 \\ \hline \end{array}$
22. $\begin{array}{r} 3 \\ \times\ 8 \\ \hline \end{array}$
23. $\begin{array}{r} 5 \\ \times\ 4 \\ \hline \end{array}$
24. $\begin{array}{r} 2 \\ \times\ 8 \\ \hline \end{array}$
25. $\begin{array}{r} 5 \\ \times\ 7 \\ \hline \end{array}$
26. $\begin{array}{r} 3 \\ \times\ 7 \\ \hline \end{array}$
27. $\begin{array}{r} 4 \\ \times\ 7 \\ \hline \end{array}$
28. $\begin{array}{r} 1 \\ \times\ 8 \\ \hline \end{array}$
29. $\begin{array}{r} 2 \\ \times\ 7 \\ \hline \end{array}$
30. $\begin{array}{r} 1 \\ \times\ 7 \\ \hline \end{array}$
31. $\begin{array}{r} 3 \\ \times\ 9 \\ \hline \end{array}$
32. $\begin{array}{r} 5 \\ \times\ 8 \\ \hline \end{array}$
33. $\begin{array}{r} 3 \\ \times\ 1 \\ \hline \end{array}$
34. $\begin{array}{r} 1 \\ \times\ 6 \\ \hline \end{array}$
35. $\begin{array}{r} 2 \\ \times\ 5 \\ \hline \end{array}$
36. $\begin{array}{r} 1 \\ \times\ 4 \\ \hline \end{array}$
37. $\begin{array}{r} 5 \\ \times\ 2 \\ \hline \end{array}$
38. $\begin{array}{r} 0 \\ \times\ 6 \\ \hline \end{array}$
39. $\begin{array}{r} 0 \\ \times\ 9 \\ \hline \end{array}$
40. $\begin{array}{r} 3 \\ \times\ 3 \\ \hline \end{array}$
41. $\begin{array}{r} 4 \\ \times\ 4 \\ \hline \end{array}$
42. $\begin{array}{r} 2 \\ \times\ 9 \\ \hline \end{array}$

Multiplying by 10

1. Count by 10's to 100. Write the numerals.



6 groups of 10 ⟶ 6 × 10 = 60 sticks.

Write the multiplication stories for 10.

2.

3 × 10 = ■

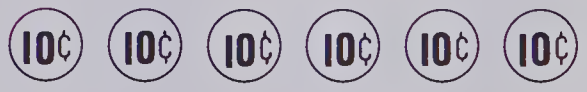
3.

■ × ■ = ■

4.

■ × ■ = ■

5.



■ × ■ = ■

Copy and complete.

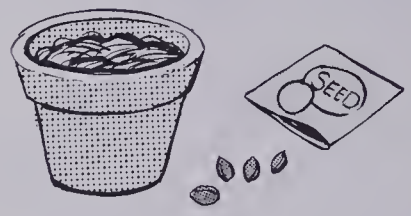
6. 10 × 8 = ___	**7.** 10 × 5 = ___	**8.** 9 × 10 = ___	**9.** 6 × 10 = ___	**10.** 7 × 10 = ___	**11.** 10 × 9 = ___
12. 10 × 4 = ___	**13.** 3 × 10 = ___	**14.** 2 × 10 = ___	**15.** 1 × 10 = ___	**16.** 0 × 10 = ___	**17.** 10 × 10 = ___

More Mysteries

Draw arrays if you need to.

1. Three branches have four apples on each branch.
   How many apples are there?

   $3 \times 4 = \blacksquare$



2. Mary planted 4 seeds in each pot.
   She planted seeds in 6 pots.
   How many seeds did she plant?

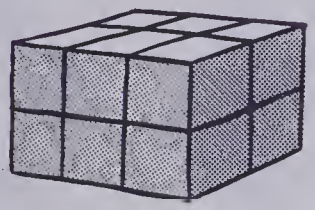
3. Tom has 5 different colours of marbles.
   He has 10 of each colour.
   How many marbles does he have?

4. There were 2 leaves on the ground.
   Each leaf has 7 bugs on it.
   How many bugs are there?

5. Five caterpillars were eating leaves.
   Each one ate 6 leaves.
   How many leaves did they eat?

Multiplying and Dividing

Multiplication

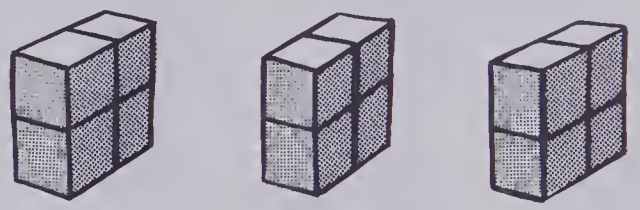


3 groups of 4.

$3 \times 4 = 12$ boxes.

or

Division

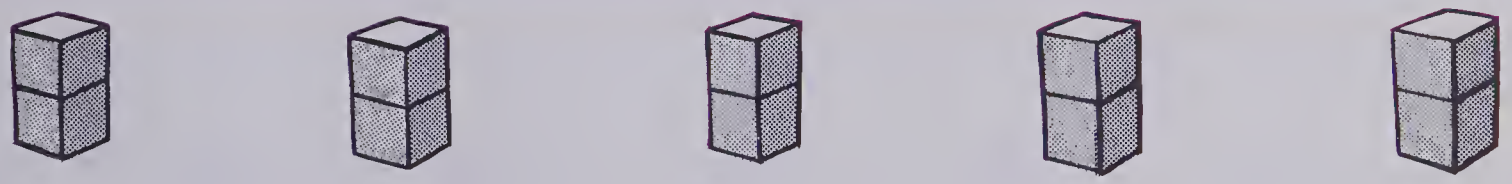


12 grouped in groups of 4.

$12 \div 4 = 3$ groups.

Multiplication puts groups together.

Division takes groups apart.



There are 10 blocks.
There are 2 in each group.
There are 5 groups.

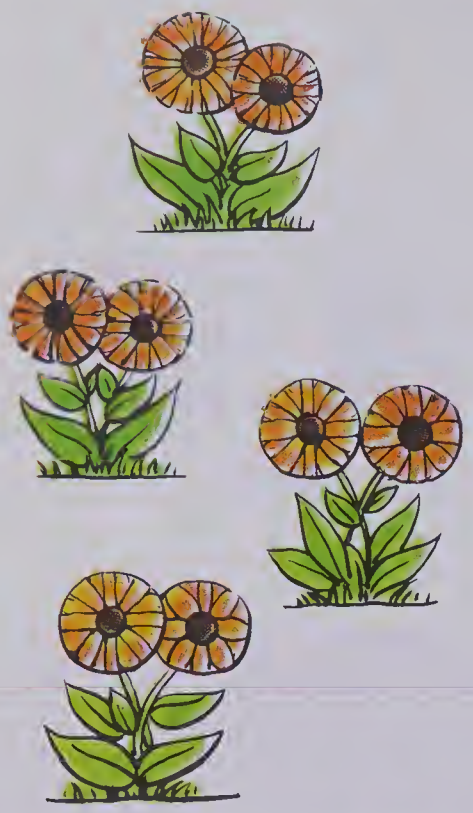
We write a division story like this:

$10 \div 2 = 5$ or *in a new way* $2\overline{)10.}^{\,5}$

Write division stories the "new" way.

1. $8 \div 2 = \blacksquare$
2. $6 \div 3 = \blacksquare$
3. $4 \div 1 = \blacksquare$
4. $12 \div 4 = \blacksquare$
5. $15 \div 3 = \blacksquare$
6. $9 \div 3 = \blacksquare$
7. $20 \div 5 = \blacksquare$
8. $25 \div 5 = \blacksquare$
9. $16 \div 4 = \blacksquare$

Dividing by 2



8 flowers.

Grouped in groups of 2.

4 groups of 2.

$8 \div 2 = 4$ or $2\overline{)8}$ $\quad 4$

Divide.

1. $18 \div 2 = \blacksquare$
2. $12 \div 2 = \blacksquare$
3. $10 \div 2 = \blacksquare$
4. $16 \div 2 = \blacksquare$
5. $20 \div 2 = \blacksquare$
6. $6 \div 2 = \blacksquare$
7. $4 \div 2 = \blacksquare$
8. $14 \div 2 = \blacksquare$
9. $8 \div 2 = \blacksquare$

Copy and complete.

10. $2\overline{)8}$
11. $2\overline{)10}$
12. $2\overline{)14}$
13. $2\overline{)6}$
14. $2\overline{)2}$
15. $2\overline{)18}$
16. $2\overline{)20}$
17. $2\overline{)12}$
18. $2\overline{)16}$
19. $2\overline{)14}$
★ 20. $2\overline{)24}$
★ 21. $2\overline{)26}$

Dividing by 3

21 pussywillows.

3 on each branch.

7 branches.

$21 \div 3 = 7$ or $3\overline{)21}$ $\quad 7$

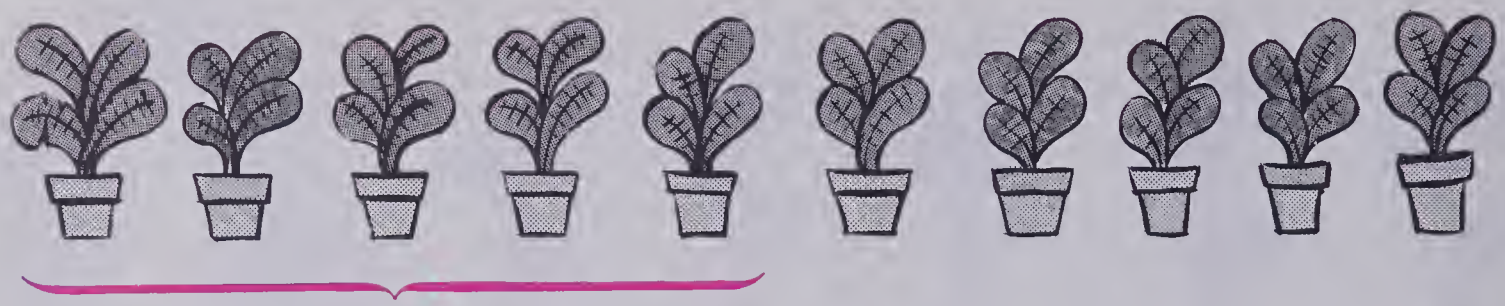
Divide.

1. $24 \div 3 = \blacksquare$
2. $18 \div 3 = \blacksquare$
3. $27 \div 3 = \blacksquare$
4. $15 \div 3 = \blacksquare$
5. $30 \div 3 = \blacksquare$
6. $12 \div 3 = \blacksquare$
7. $21 \div 3 = \blacksquare$
8. $9 \div 3 = \blacksquare$
9. $3 \div 3 = \blacksquare$

Copy and complete.

10. $3\overline{)27}$
11. $3\overline{)6}$
12. $3\overline{)15}$
13. $3\overline{)21}$
14. $3\overline{)12}$
15. $3\overline{)30}$
16. $3\overline{)9}$
17. $3\overline{)24}$
18. $3\overline{)18}$
19. $3\overline{)15}$
★ 20. $3\overline{)33}$
★ 21. $3\overline{)36}$

Dividing by 4



20 leaves.

4 leaves on each plant.

5 plants.

$20 \div 4 = 5$ or $4\overline{)20}$ $\quad 5$

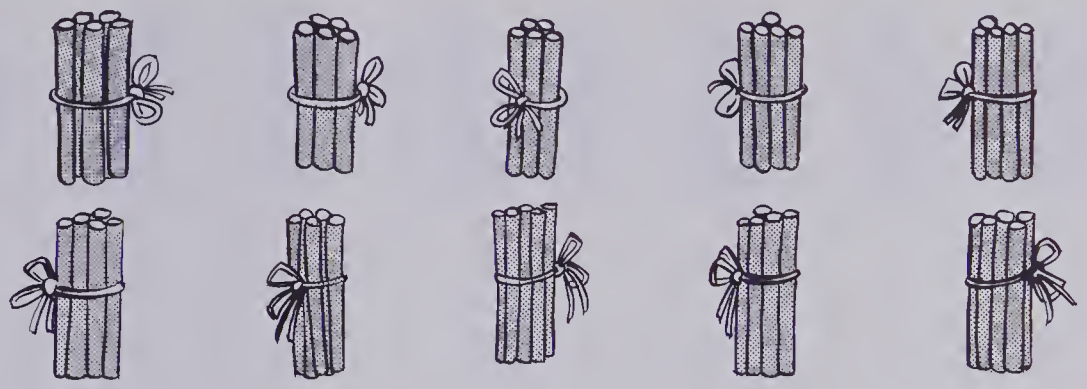
Divide.

1. $16 \div 4 = \blacksquare$
2. $8 \div 4 = \blacksquare$
3. $24 \div 4 = \blacksquare$
4. $20 \div 4 = \blacksquare$
5. $32 \div 4 = \blacksquare$
6. $40 \div 4 = \blacksquare$
7. $12 \div 4 = \blacksquare$
8. $36 \div 4 = \blacksquare$
9. $28 \div 4 = \blacksquare$

Copy and complete.

10. $4\overline{)12}$
11. $4\overline{)20}$
12. $4\overline{)32}$
13. $4\overline{)16}$
14. $4\overline{)40}$
15. $4\overline{)36}$
16. $4\overline{)28}$
17. $4\overline{)24}$
18. $4\overline{)4}$
19. $4\overline{)16}$
★20. $4\overline{)44}$
★21. $4\overline{)48}$

Dividing by 5



50 sticks.

5 in each bundle.

10 bundles.

$50 \div 5 = 10$ or $5\overline{)50}$ (10)

Divide.

1. $45 \div 5 = \blacksquare$
2. $30 \div 5 = \blacksquare$
3. $10 \div 5 = \blacksquare$
4. $15 \div 5 = \blacksquare$
5. $25 \div 5 = \blacksquare$
6. $35 \div 5 = \blacksquare$
7. $20 \div 5 = \blacksquare$
8. $40 \div 5 = \blacksquare$
9. $50 \div 5 = \blacksquare$

Copy and complete.

10. $5\overline{)25}$
11. $5\overline{)40}$
12. $5\overline{)15}$
13. $5\overline{)35}$
14. $5\overline{)10}$
15. $5\overline{)50}$
16. $5\overline{)20}$
17. $5\overline{)45}$
18. $5\overline{)30}$
19. $5\overline{)5}$
★ 20. $5\overline{)55}$
★ 21. $5\overline{)60}$

Tune Up

Divide.

1. $10 \div 2 = \blacksquare$
2. $25 \div 5 = \blacksquare$
3. $36 \div 4 = \blacksquare$
4. $10 \div 1 = \blacksquare$
5. $24 \div 3 = \blacksquare$
6. $15 \div 5 = \blacksquare$
7. $18 \div 2 = \blacksquare$
8. $20 \div 5 = \blacksquare$
9. $40 \div 4 = \blacksquare$
10. $21 \div 3 = \blacksquare$
11. $45 \div 5 = \blacksquare$
12. $20 \div 2 = \blacksquare$
13. $15 \div 3 = \blacksquare$
14. $20 \div 4 = \blacksquare$
15. $27 \div 3 = \blacksquare$

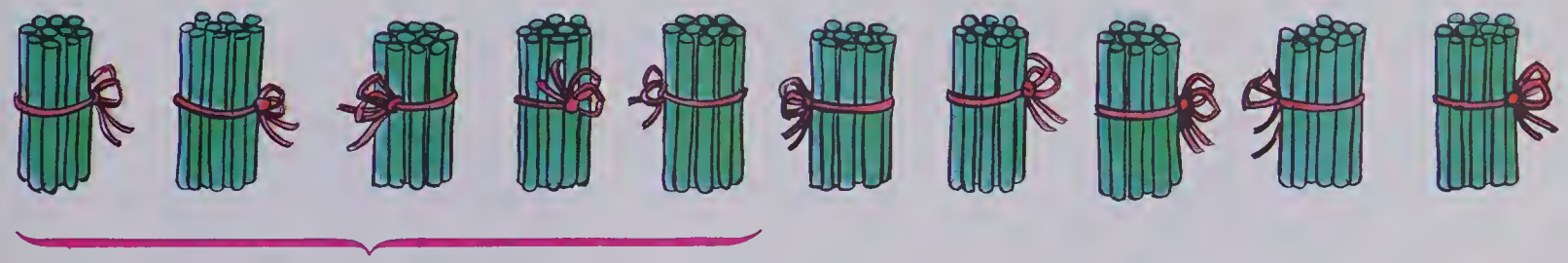
Copy and complete.

16. $3\overline{)21}$
17. $5\overline{)25}$
18. $4\overline{)20}$
19. $2\overline{)18}$
20. $4\overline{)24}$
21. $3\overline{)15}$
22. $3\overline{)18}$
23. $4\overline{)36}$
24. $5\overline{)25}$
25. $5\overline{)50}$
26. $2\overline{)12}$
27. $3\overline{)15}$
28. $4\overline{)40}$
29. $5\overline{)35}$
30. $2\overline{)24}$

Write a division story for each of these.

31. $5 \times 5 = 25$
32. $4 \times 10 = 40$
33. $6 \times 5 = 30$
34. $8 \times 3 = 24$
35. $7 \times 2 = 14$
36. $5 \times 4 = 20$
37. $9 \times 1 = 9$
38. $6 \times 3 = 18$
39. $9 \times 4 = 36$
40. $7 \times 4 = 28$
41. $6 \times 6 = 36$
42. $4 \times 7 = 28$
43. $8 \times 4 = 32$
44. $9 \times 5 = 45$
45. $3 \times 9 = 27$

Dividing by 10



50 sticks.

10 in each bundle.

5 bundles.

$50 \div 10 = 5$ or $10\overline{)50.}^{\,5}$

Divide.

1. $90 \div 10 = \blacksquare$
2. $30 \div 10 = \blacksquare$
3. $60 \div 10 = \blacksquare$
4. $100 \div 10 = \blacksquare$
5. $20 \div 10 = \blacksquare$
6. $40 \div 10 = \blacksquare$
7. $80 \div 10 = \blacksquare$
8. $50 \div 10 = \blacksquare$
9. $70 \div 10 = \blacksquare$

Copy and complete.

10. $10\overline{)80}$
11. $10\overline{)40}$
12. $10\overline{)90}$
13. $10\overline{)60}$
14. $10\overline{)70}$
15. $10\overline{)100}$
16. $10\overline{)30}$
17. $10\overline{)50}$
18. $10\overline{)20}$
★19. $10\overline{)120}$
★20. $10\overline{)140}$
★21. $10\overline{)110}$

Number Families

This is the "15 Family" and here are some members of the "15 Family".

Here are some stories about the "15 Family".

$$3 \times 5 = 15$$

$$5 \times 3 = 15$$

$$15 \div 3 = 5$$

$$15 \div 5 = 3$$

Make four stories to go with the members of these families.
Name the family.

1. (a) 12, 3, 4. (b) 20, 4, 5. (c) 15, 5, 3.
   (d) 24, 4, 6. (e) 21, 7, 3. (f) 8, 4, 2.
   (g) 18, 3, 6. (h) 27, 3, 9. (i) 10, 5, 2.

2. (a) 6, 3, 2. (b) 12, 6, 2. (c) 24, 2, 12.
   (d) 32, 4, 8. (e) 50, 10, 5. (f) 24, 8, 3.
   (g) 14, 7, 2. (h) 36, 9, 4. (i) 45, 9, 5.

Number Families

Here are 2 stories for a "family". Write 2 more.

1. $4 \times 2 = 8$
   $2 \times 4 = 8$

2. $4 \times 5 = 20$
   $5 \times 4 = 20$

3. $5 \times 6 = 30$
   $6 \times 5 = 30$

Write 3 more stories for each family.

4. $3 \times 10 = 30$

5. $9 \times 5 = 45$

6. $9 \times 10 = 90$

Write 2 more stories for each of these.

7. $10 \div 2 = 5$
   $10 \div 5 = 2$

8. $35 \div 5 = 7$
   $35 \div 7 = 5$

9. $40 \div 5 = 8$
   $40 \div 8 = 5$

Write 3 more stories for each family.

10. $24 \div 6 = 4$

11. $12 \div 3 = 4$

12. $80 \div 10 = 8$

13. $21 \div 3 = 7$

14. $20 \div 4 = 5$

15. $15 \div 5 = 3$

16. $24 \div 2 = 12$

17. $14 \div 2 = 7$

18. $15 \div 3 = 5$

19. $60 \div 10 = 6$

20. $12 \div 4 = 3$

21. $18 \div 3 = 6$

22. $24 \div 4 = 6$

23. $20 \div 5 = 4$

24. $20 \div 2 = 10$

25. $70 \div 10 = 7$

26. $50 \div 5 = 10$

27. $36 \div 4 = 9$

28. $24 \div 6 = 4$

29. $32 \div 4 = 8$

30. $21 \div 3 = 7$

31. $25 \div 5 = 5$

32. $28 \div 7 = 4$

33. $50 \div 10 = 5$

Using the Multiplication Table

Your multiplication can help you to divide numbers.

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

$4\overline{)24}$

(a) Find 4 in the red row.

(b) Go down from 4 and stop on 24.

(c) Go left to the blue column to find the answer. (6)

1. $10 \div 5 =$ ■
2. $30 \div 5 =$ ■
3. $8 \div 4 =$ ■
4. $16 \div 2 =$ ■
5. $6 \div 2 =$ ■
6. $15 \div 3 =$ ■
7. $12 \div 4 =$ ■
8. $4 \div 4 =$ ■
9. $5 \div 5 =$ ■
10. $14 \div 2 =$ ■
11. $24 \div 3 =$ ■
12. $10 \div 2 =$ ■
13. $2\overline{)16}$
14. $3\overline{)21}$
15. $4\overline{)20}$
16. $5\overline{)5}$
17. $1\overline{)2}$
18. $4\overline{)16}$
19. $3\overline{)27}$
20. $2\overline{)18}$

Sharing Nothing

The children are trying to guess how many candies are in the bag.
They will share among the three of them.

But, there were no candies left

so the 3 children didn't get any candy.

$0 \div 3 = 0$ (no candies each).

Copy and complete.

1. $0 \div 9 = \blacksquare$
2. $0 \div 2 = \blacksquare$
3. $0 \div 15 = \blacksquare$
4. $0 \div 6 = \blacksquare$
5. $0 \div 1 = \blacksquare$
6. $0 \div 10 = \blacksquare$
7. $0 \div 4 = \blacksquare$
8. $0 \div 100 = \blacksquare$
9. $0 \div 34 = \blacksquare$
10. $0 \div 49 = \blacksquare$
11. $0 \div 3 = \blacksquare$
12. $0 \div 68 = \blacksquare$

× and ÷ Ladders

Copy and complete.

1.

× 2	
0	0
1	2
2	
3	
4	
5	
6	
7	
8	
9	
10	

2.

× 3	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

3.

× 4	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

4.

× 5	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

5.

÷ 2	
0	0
2	1
4	
6	
8	
10	
12	
14	
16	
18	
20	

6.

÷ 3	
0	
3	
6	
9	
12	
15	
18	
21	
24	
27	
30	

7.

÷ 4	
0	
4	
8	
12	
16	
20	
24	
28	
32	
36	
40	

8.

÷ 5	
0	
5	
10	
15	
20	
25	
30	
35	
40	
45	
50	

Fruitful Mysteries

Write the number stories.

1. One apple has 4 seeds in it.
   How many seeds are there in
   5 apples?

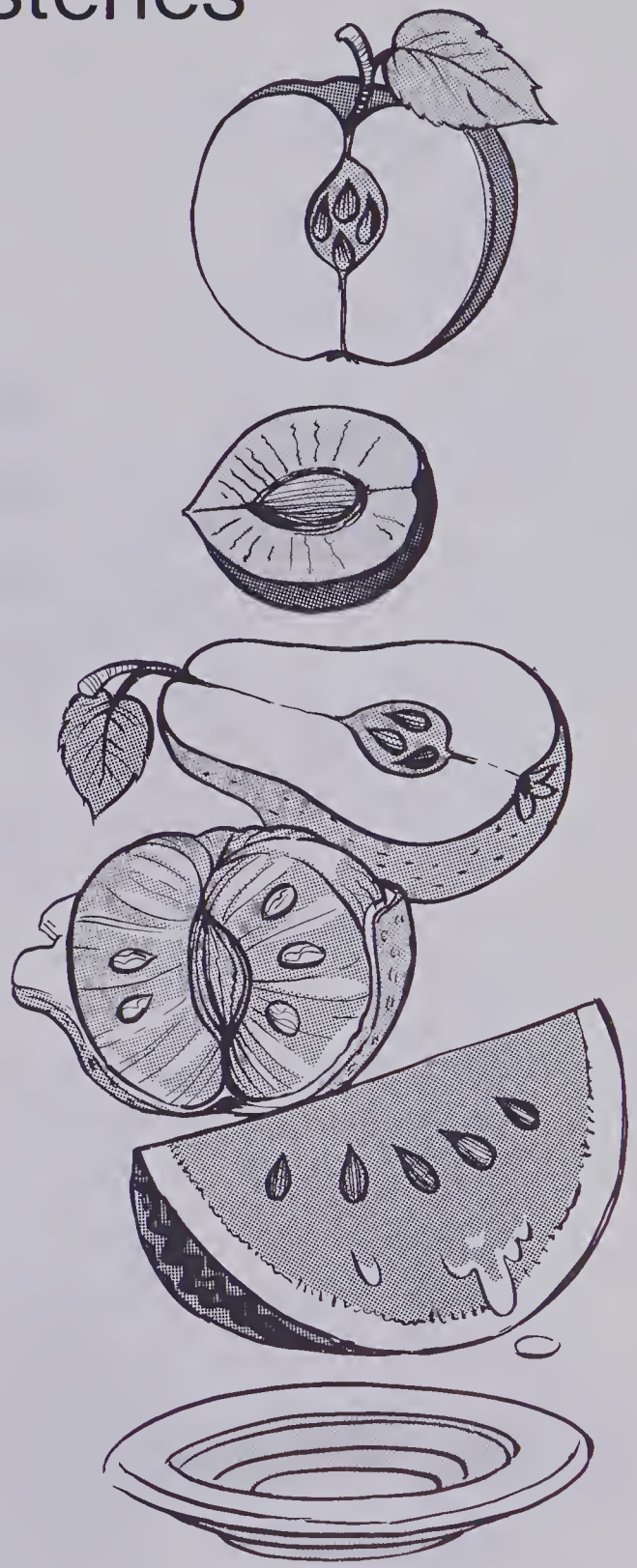
2. One plum has 1 seed.
   How many seeds are there in
   9 plums?

3. One pear has 3 seeds.
   How many seeds are there in
   9 pears?

4. One orange has 5 seeds.
   How many seeds are there in
   6 oranges?

5. Each watermelon slice has 5 seeds.
   There are 45 seeds altogether.
   How many slices are there?

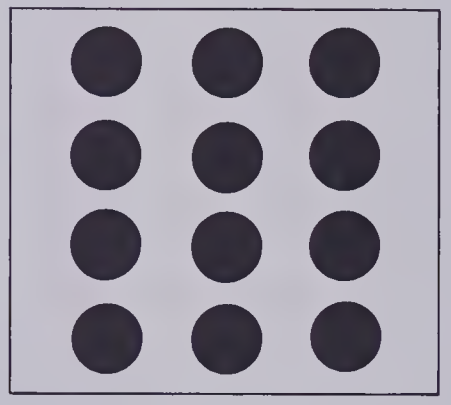
6. Four children want to share some peaches.
   There are no peaches left.
   How many peaches will each child have?



More Family Stories

1. This square has 12 spots.
Make up 4 number stories about 12 and put one on each corner.
One is done for you.

$3 \times 4 = 12$



■ ÷ ■ = ■

■ × ■ = ■

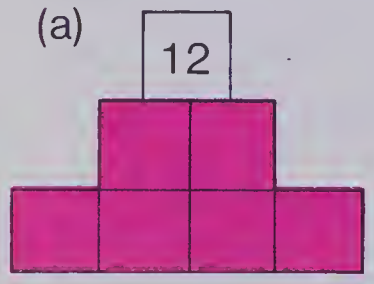
■ ÷ ■ = ■

Draw some more squares and make stories to go with:

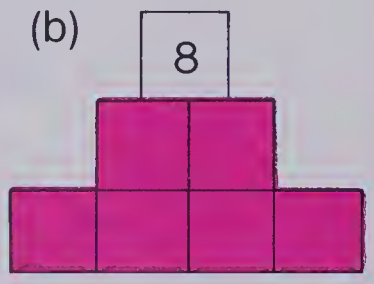
15 spots. 8 spots. 24 spots.

★ 2. Fill in the numbers and balance each row.
The number in each row must equal the number on top.

(a)



(b)



BRAINTICKLER

I am more than 3 × 4
but less than 4 × 4.

I cannot be divided
by 2 or 3.

Who am I?

Factory Workers

1. John put 20 wheels on cars.
   He put 4 on each car.
   How many cars?

2. Diane sewed 18 buttons on red shirts.
   She sewed 2 on each shirt.
   How many shirts?

3. Susie put 16 headlights on cars.
   She put them on 4 cars.
   How many headlights on each car?

4. Serge put knobs on 5 stoves.
   He put 25 knobs on stoves.
   How many knobs on each stove?

5. Sherrie drove 9 cars for the factory each day.
   She worked 8 days.
   How many cars?

6. Bruce packed 5 chocolate bunnies in a box.
   He packed 4 boxes in 1 h.
   How many bunnies did he pack in 1 h?

Chapter Test

1. $4 \times 5 = \blacksquare$
2. $4 \times 10 = \blacksquare$
3. $9 \times 4 = \blacksquare$
4. $3 \times 8 = \blacksquare$

5. 2×8
6. 4×6
7. 5×7
8. 3×7
9. 2×4
10. 4×7

11. 10×8
12. 3×4
13. 0×8
14. 5×6
15. 2×5
16. 3×5

17. 5×9
18. 10×3
19. 4×8
20. 3×9
21. 5×10
22. 2×6

23. $0 \div 8 = \blacksquare$
24. $24 \div 6 = \blacksquare$
25. $16 \div 4 = \blacksquare$
26. $10 \div 2 = \blacksquare$
27. $0 \div 32 = \blacksquare$
28. $25 \div 5 = \blacksquare$
29. $5\overline{)35}$
30. $4\overline{)28}$
31. $3\overline{)18}$
32. $2\overline{)12}$
33. $10\overline{)90}$
34. $3\overline{)21}$
35. $5\overline{)30}$
36. $4\overline{)36}$
37. $2\overline{)18}$
38. $5\overline{)45}$
39. $3\overline{)27}$
40. $10\overline{)20}$

41. 10 oranges in each crate.
8 crates in the store.
How many oranges altogether?

42. 36 marbles in the bag.
4 children want to share them.
How many for each child?

Cumulative Review

Watch the Sign!

1. (a) $234 + 197$ (b) $425 + 334$ (c) $542 + 158$ (d) $327 + 456$ (e) $189 + 346$

2. (a) $657 - 423$ (b) $968 - 549$ (c) $652 - 324$ (d) $675 - 458$ (e) $351 - 144$

3. (a) 3×8 (b) 10×6 (c) 3×5 (d) 5×9 (e) 4×7

4. (a) 0×9 (b) 3×7 (c) 5×8 (d) 10×9 (e) 0×6

Divide.

5. (a) $4\overline{)24}$ (b) $5\overline{)30}$ (c) $3\overline{)24}$ (d) $10\overline{)80}$ (e) $4\overline{)36}$

6. (a) $3\overline{)15}$ (b) $4\overline{)20}$ (c) $4\overline{)16}$ (d) $5\overline{)25}$ (e) $2\overline{)16}$

7. (a) $2\overline{)20}$ (b) $3\overline{)12}$ (c) $10\overline{)50}$ (d) $4\overline{)32}$ (e) $5\overline{)40}$

8. (a) $4\overline{)40}$ (b) $5\overline{)35}$ (c) $3\overline{)30}$ (d) $2\overline{)14}$ (e) $10\overline{)90}$

9. 24 apples.
4 children want to share.
How many for each child?

10. One orange has 4 seeds.
How many seeds are there in 5 oranges?

11. 3 children want to share some peanuts.
There are no peanuts left.
How many peanuts for each child?

12. Each peach has 1 seed.
How many seeds are there in 10 peaches?

Chapter 9

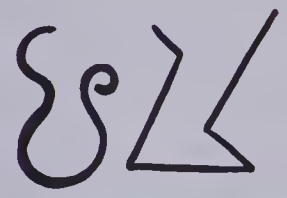
Geometry and Graphs

Plane Shapes

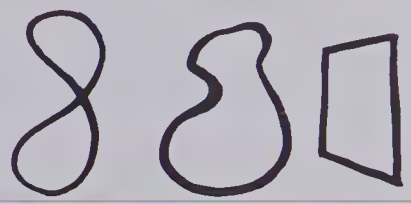
Pictographs and Bar Graphs

Curves

Open curves



Closed curves

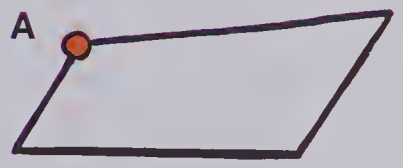


A **closed curve** ends where it starts.

1. Trace this curve with your finger.

(a) Does it end where it starts?
(b) Does it cross itself?
(c) Is it an open or closed curve?

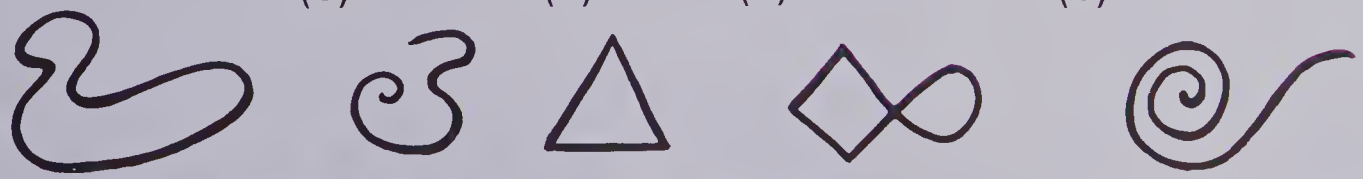
2. Trace this curve with your finger.



(a) Does it end where it starts?
(b) Does it cross itself?
(c) Is it an open or closed curve?

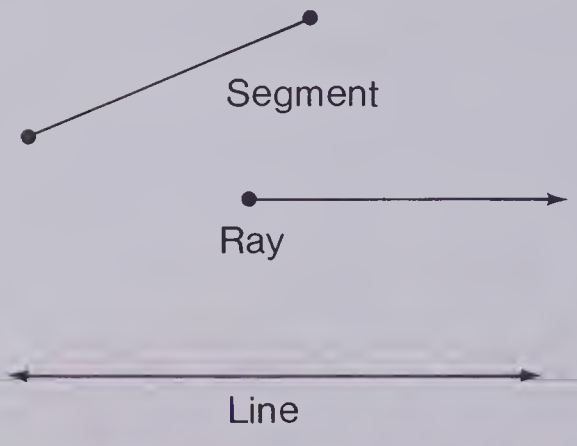
3. Which are open curves? closed curves?

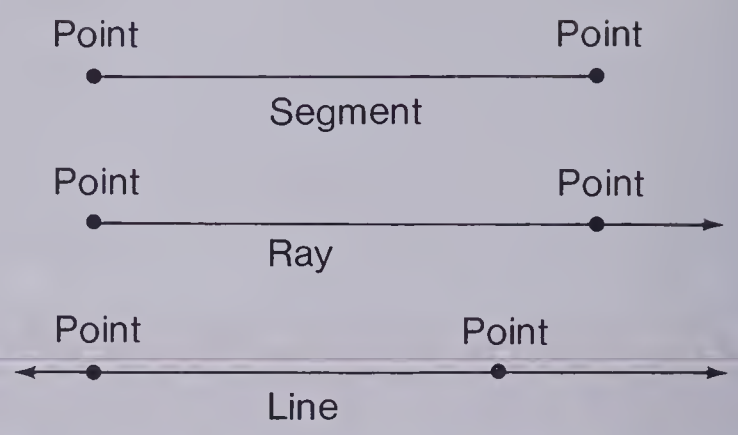
(a) (b) (c) (d) (e)



4. Draw two pictures of each.
(a) open curves (b) closed curves

Segments, Rays, and Lines





A **ray** goes on forever in one direction only.
A **line** goes on forever in **both** directions.

1. Which are segments?

(a) (b) (c) (d) (e) (f)

2. Which are lines? rays?

(a) (b) (c) (d) (e)

3. Which are rays? segments?

(a) (b) (c) (d) (e) (f)

4. Match.

(a) Line	(i) goes on forever in one direction only
(b) Ray	(ii) has two endpoints
(c) Segment	(iii) goes on forever in both directions

5. Draw 3 rays.

6. Draw 3 segments.

7. Draw 3 lines.

Tune Up

1. Start at 14 and count by twos to 60.
2. Start at 6 and count by threes to 33.
3. Start at 80 and count by fives to 150.
4. Start at 50 and count by tens to 150.
5. Start at 100 and count by hundreds to 900.

Add.

6. 32 + 7	**7.** 346 + 8	**8.** 428 + 141	**9.** 436 + 151	**10.** 575 + 173
11. 634 + 126	**12.** 278 + 416	**13.** 269 + 163	**14.** 154 + 167	**15.** 299 + 222

Subtract.

16. 36 - 12	**17.** 47 - 23	**18.** 356 - 112	**19.** 516 - 203	**20.** 168 - 54
21. 23 - 18	**22.** 36 - 29	**23.** 333 - 156	**24.** 231 - 146	**25.** 300 - 167

Add.

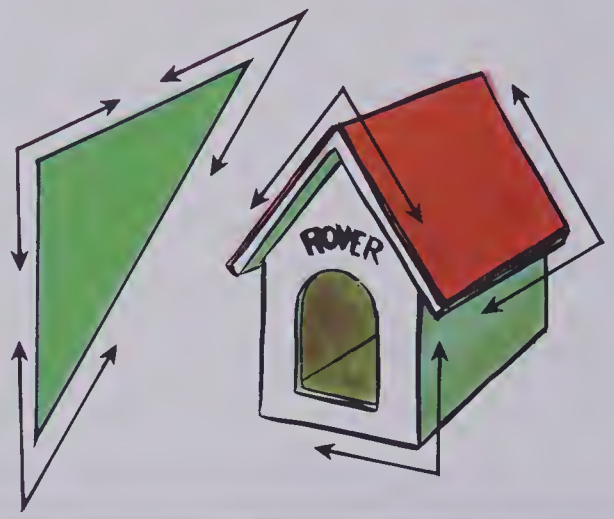
26. $1.47 + 1.21	**27.** $6.25 + 1.80

Subtract.

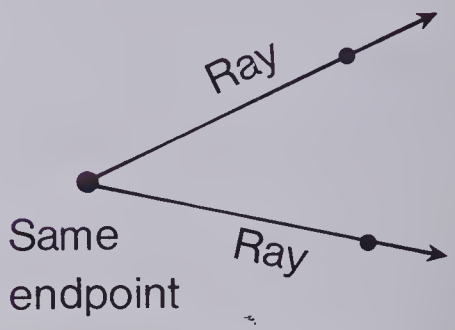
28. $3.64 - 1.03	**29.** $8.77 - 2.53	**30.** $5.67 - 4.10

Angles

Examples of angles



Drawing an **angle**.



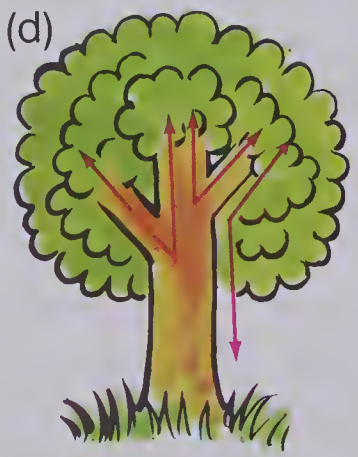
1. Trace the angle in each.

(a)

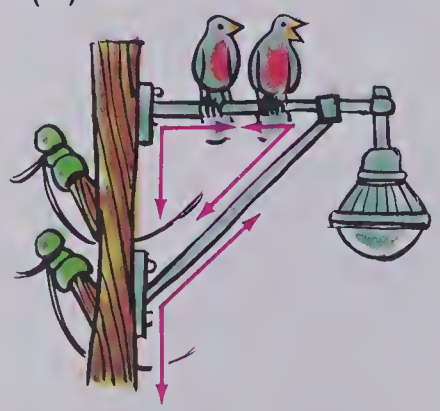
(b)

(c)

(d)



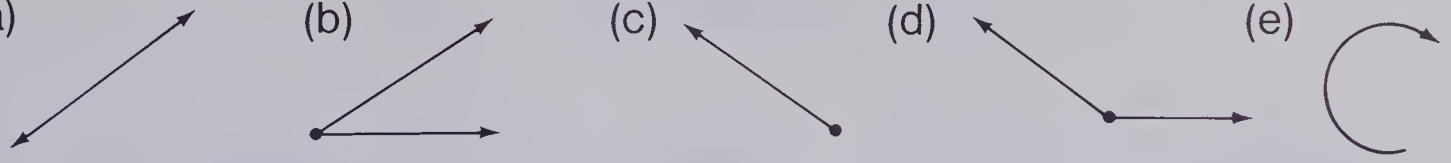
(e)



(f)

2. Which are angles?

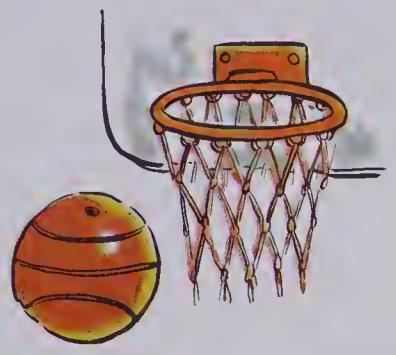
(a) (b) (c) (d) (e)



3. Which remind you of angles? Tell why.

(a)

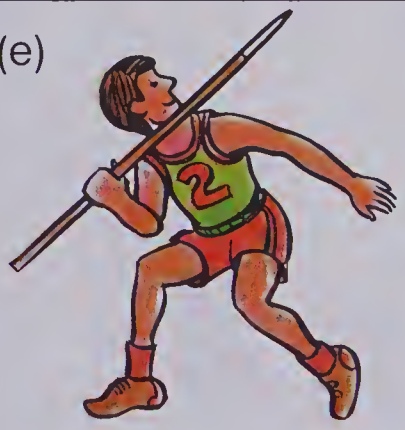
(b)



(c)

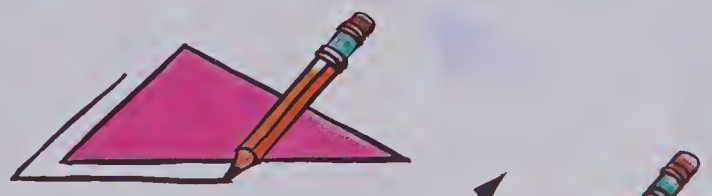
(d)

(e)



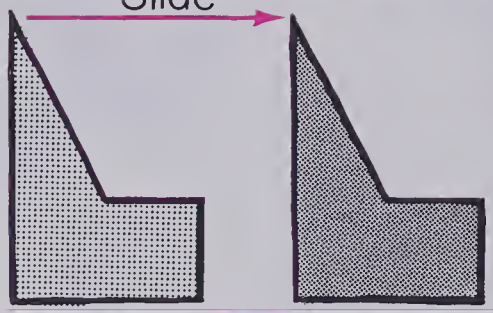
(f)

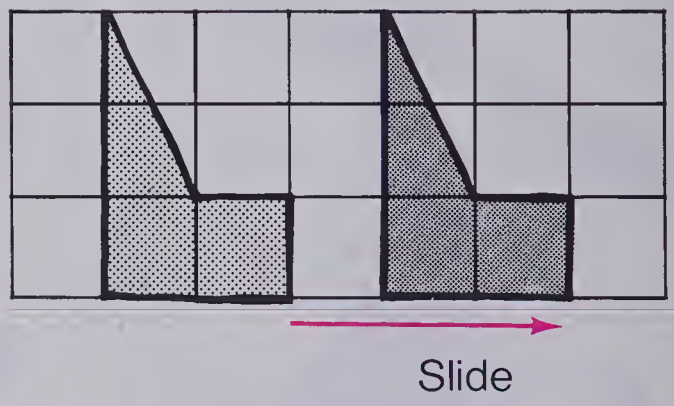
4. Cut out a triangle.
Trace all the angles.
How many are there?



5. Use a ruler. Draw an angle.

Slides

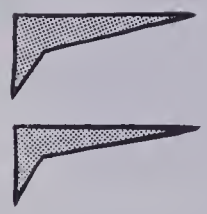


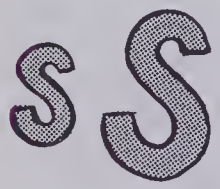


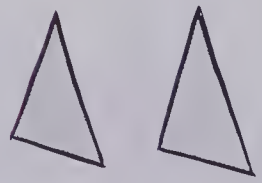
Which show slides?

1.

2.

3. 

4. 

5. 

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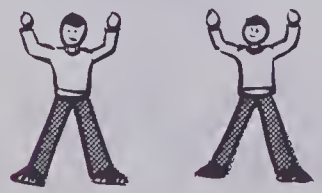
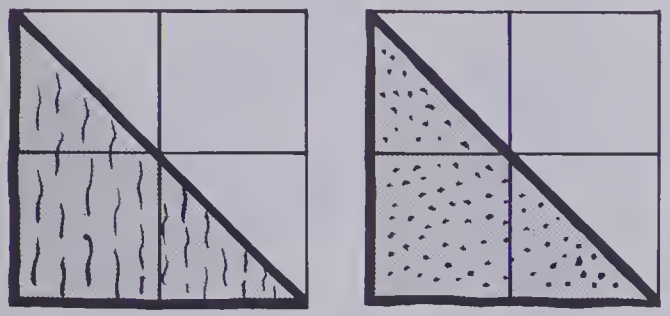
7. 

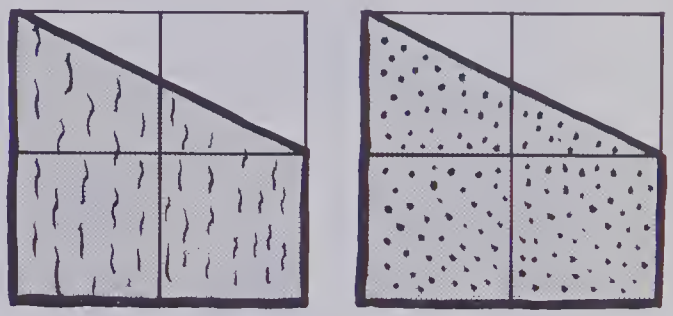
8.

9.

The Same Shapes



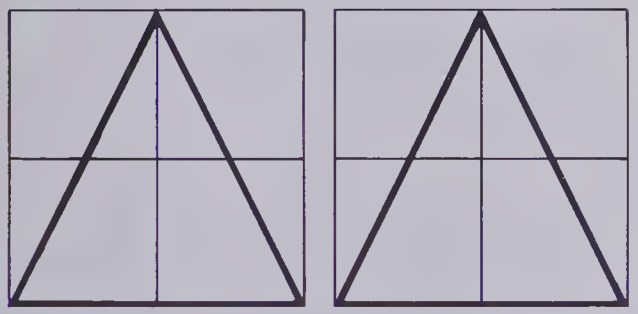
The same shapes



The same shapes

Which shapes are the same?

1.



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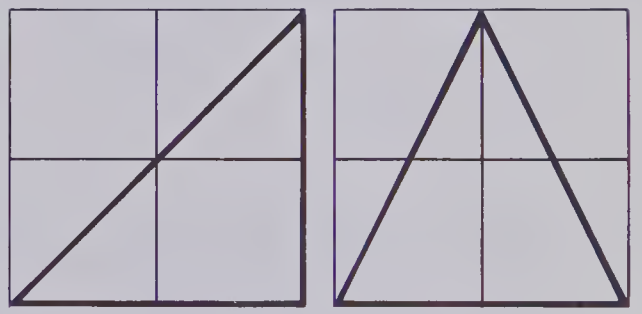

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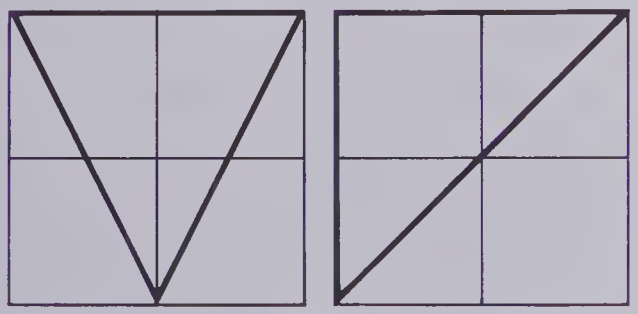

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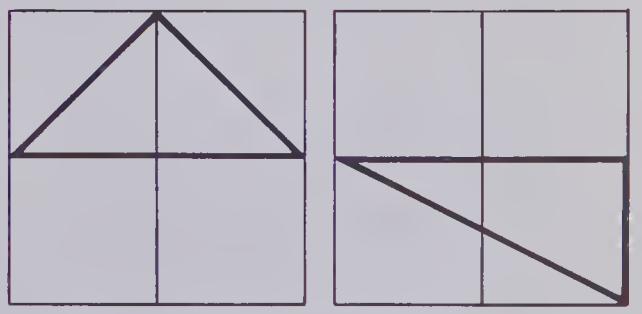

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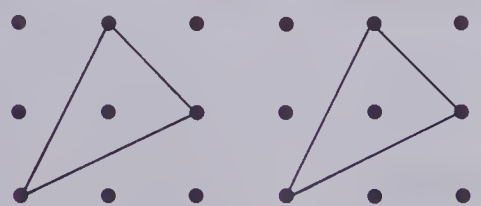

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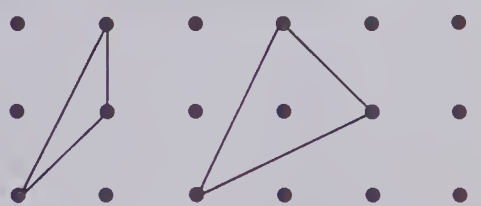


The Country Fair

Write a number sentence to solve each mystery.

1. Cowboy straw hat $3.25
   Cowboy belt $4.60
   Total cost?

2. Ride on ferris wheel 55¢
   Ride on roller coaster 65¢
   Total cost?

3. Mary's calf is 213 kg.
   Billy's calf is 208 kg.
   How much more is Mary's calf?

4. Mary's calf is 120 cm tall.
   Billy's calf is 95 cm tall.
   How much taller is Mary's calf?

5. Kim's rose is 18 cm wide.
   Ray's rose is 16 cm wide.
   How much bigger is Kim's rose?

6. Marco's rooster is 4 kg.
   Marco's duck is 8 kg.
   How much heavier is the duck?

7. Pierre sold honey at $1.85 for each litre.
   How much did he get for 2 L?

8. José's sheep are 44 kg and 39 kg.
   How heavy are the two sheep together?

A Chart and Problems

We can obtain information by reading charts.

World's Largest Fish			
Type or Name	Country	Year Caught	Length in Metres
Saltwater			
Whale Shark	Siam	1919	19
Great White Shark	Canada	1930	11
Freshwater			
Catfish	Russia	1918	4
Pla	Thailand	——	2

1. Which saltwater fish was longer?
2. Which freshwater fish was longer?
3. How much longer was the whale shark than the great white shark?
   (a) How long is the whale shark?
   (b) How long is the great white shark?
   (c) Subtract: 19 - 11 = ■
4. How much longer is the catfish than the pla?
5. How long would the two sharks be if placed end to end?
6. How long would the two freshwater fish be if placed end to end?
7. In which year was the catfish caught?
8. In what country was the pla caught?

Keeping Track

Kelly made a mark for each tree on his street.

Oak 𝍸 |||
Maple 𝍸 𝍸 |
Elm 𝍸 |

Tally System

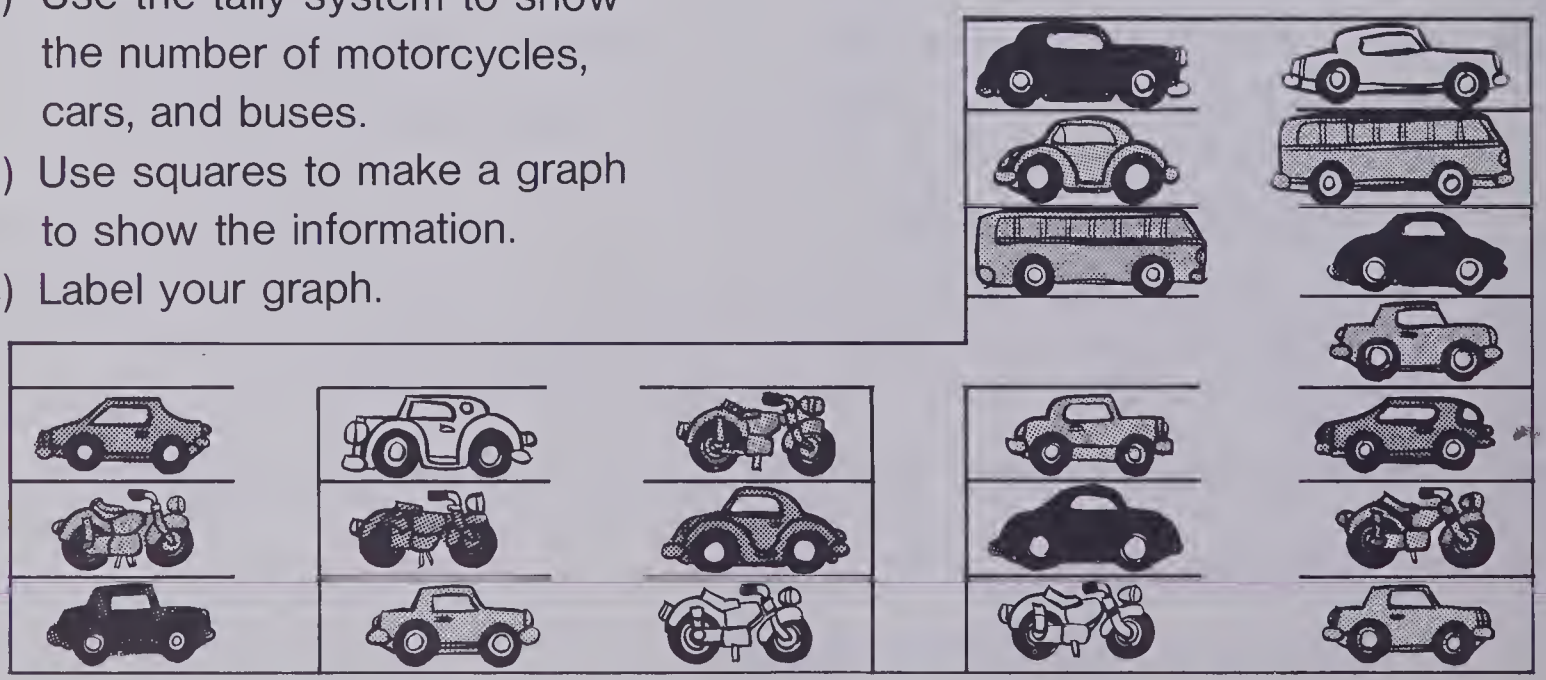
Kelly made a graph.
He used one square for each tree.

Oak
Maple
Elm

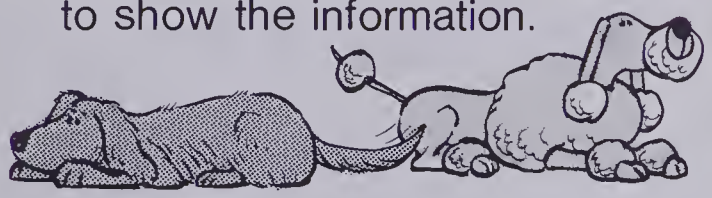
Graph

1. Refer to the above.
   (a) How many tally marks did Kelly make for the
      (i) oak? (ii) maple? (iii) elm?
   (b) How many squares were used for the oak trees?
   (c) How many squares were used for the maple trees?
   (d) How many squares were used for the elm trees?

2. This shows a parking lot.
   (a) Use the tally system to show the number of motorcycles, cars, and buses.
   (b) Use squares to make a graph to show the information.
   (c) Label your graph.

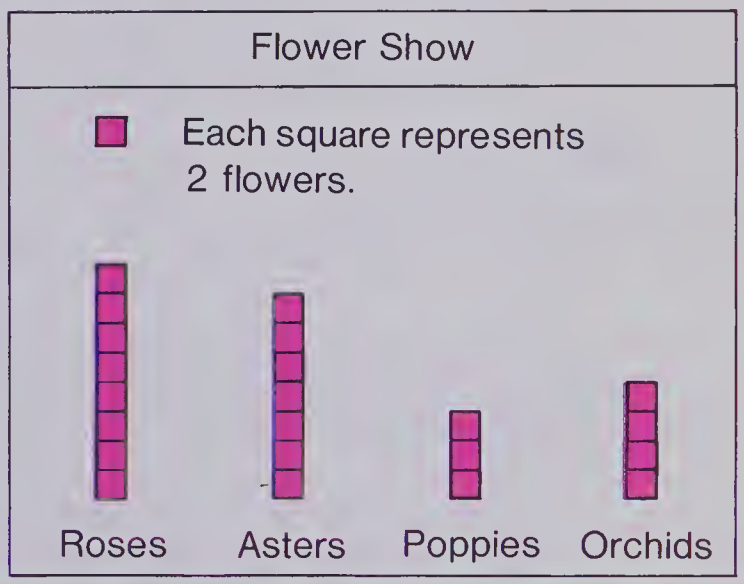


3. (a) How many kinds of dogs?
(b) How many of each kind?
(c) Of what kind were there the most?
(d) Of what kind were there the least?
(e) How many dogs altogether?
(f) Show the tally for 18 dogs.
(g) Use squares to make a graph to show the information.



Dogs at the Dog Show	
Type	Number of Dogs
Collies	𝍸 𝍸 𝍸 𝍸 |
Poodles	𝍸 𝍸 |||
Beagles	||||
Cocker Spaniels	𝍸 𝍸 |||

4. (a) How many flowers does each square stand for?
(b) How many asters were there?
(c) How many orchids were there?
(d) Of what kind were there the most?
(e) How many flowers were in the show altogether?
(f) How would you graph 12 sweet peas?



BRAINTICKLER

Pile 9 boxes in 3 stacks of 3.
No box can have a number smaller than its own below it or to the right.
One way is shown.

How many more can you find?

1	4	7
2	5	8
3	6	9

Reading Pictographs

Graphs tell facts. These are **pictographs**.

Roses in Children's Gardens		
Each symbol means 1 rose.	Name	Number of Roses
	Shawn	
	Cheryl	
	Michie	
	Jennie	

The Gymnastic Club has a sale of chocolates to raise funds.

Sale of Boxes of Chocolates		
means 2 boxes of chocolates.	Name	Number of Boxes Sold
	Hilda	
	Frank	
	Myra	
	Fred	
	Bob	

The Ice-Cream Shop recorded the kinds of ice cream sold.

Flavours of Ice Cream Sold		
means 10 ice-cream cones.	Flavour	Number of Cones Sold
	Strawberry	
	Chocolate	
	Pineapple	
	Vanilla	

1. Roses in Children's Gardens

(a) How many roses does each symbol stand for?
(b) How many roses does Shawn have?
(c) Who has the most roses?
(d) Who has the fewest roses?
(e) How would you show 12 roses?
(f) What does the graph tell us?

2. Sale of Boxes of Chocolates

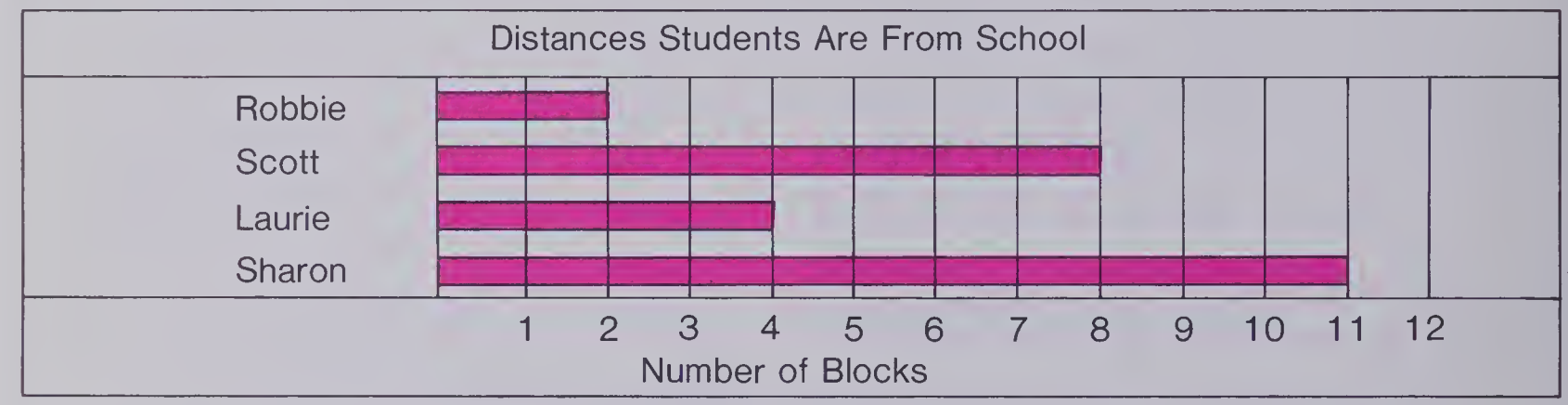
(a) What is the pictograph about?
(b) How many boxes does the symbol stand for?
(c) How many boxes does the symbol stand for?
(d) How many boxes did each person sell?
(e) Who sold the most boxes? the least?
(f) How many boxes were sold altogether? Find this in two ways.

3. Flavours of Ice Cream Sold

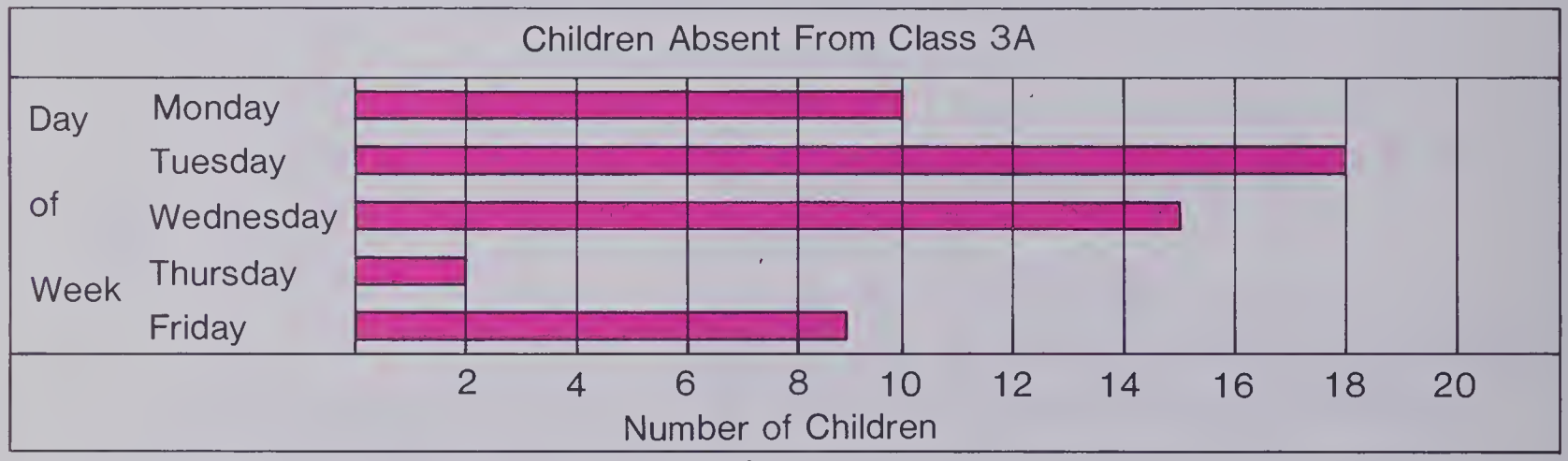
(a) What is the graph about?
(b) How many cones does the symbol stand for? the symbol ?
(c) How many strawberry ice-cream cones were sold? pineapple? vanilla?
(d) What flavour was most popular? least?
(e) How many cones were sold altogether? How many ways can you find this answer?
(f) How would the graph help the owner of the ice-cream shop?

The Bar Graph

A **bar graph** gives information.



The flu hit class 3A one week.



Class 3B had a stamp collecting campaign.

1. Distances Students Are From School

(a) What is this graph about?

(b) What are the names of the students?

(c) Who is the farthest from school?

Pick the longest bar.

Follow it to the name on the left.

(d) Who is the closest to school?

(e) How far is Scott from school?

Follow the bar from the name Scott to the right end.

What line does it end on?

(f) How far is Laurie from school?

2. Children Absent From Class 3A

(a) What is the graph about?

(b) Where is the *scale* shown? How is the scale marked?

(c) Where are the days shown?

(d) How many children were absent Monday? Wednesday? Friday?

(e) On which day were the most children absent?

(f) On which day were the fewest children absent?

3. Stamp Collection

(a) What is the graph about?

(b) On which days were the stamps collected?

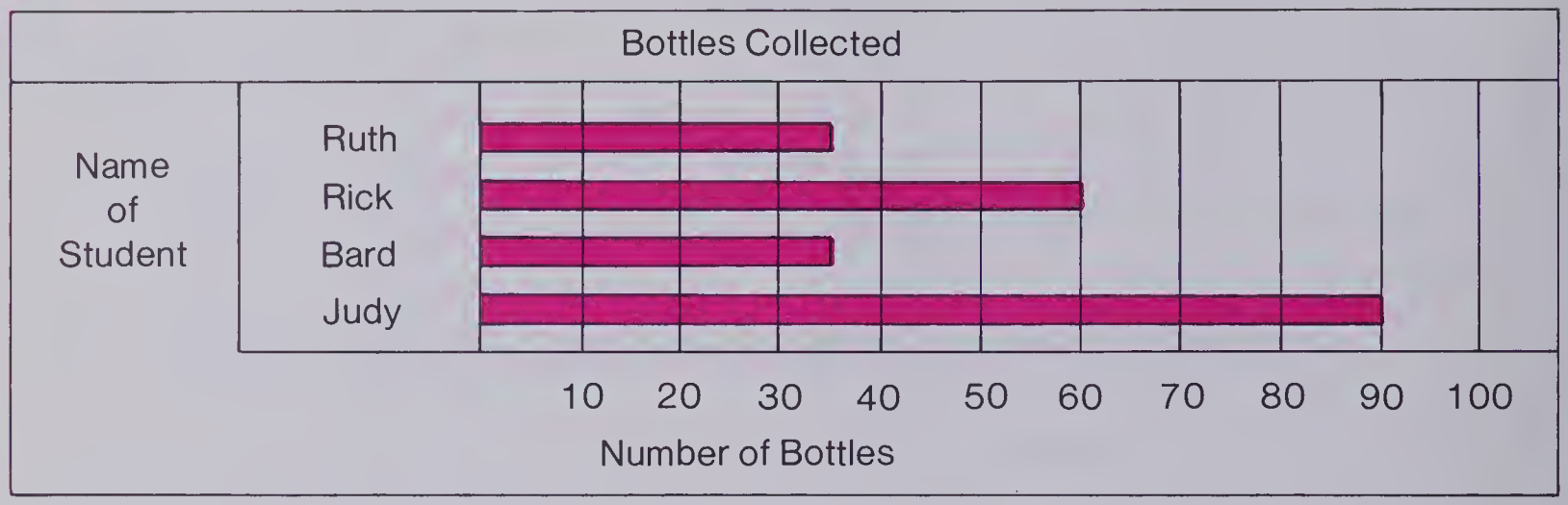
(c) How is the scale marked?

(d) How many stamps were collected on Tuesday? Friday?

(e) On which day were the most stamps collected? the fewest?

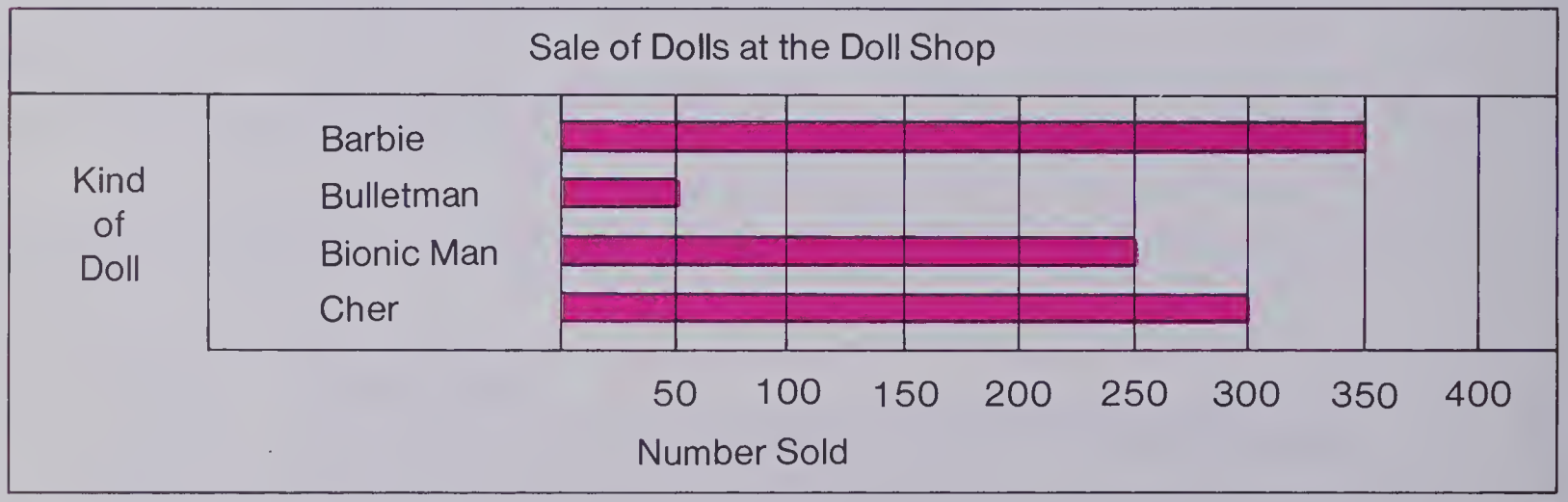
More Bar Graphs

1.



(a) Who collected the same number of bottles as Ruth?
(b) Who collected more bottles than Rick?
(c) How many bottles were collected by Bard? Ruth? Rick?

2.



(a) What is the graph about?
(b) How many Bionic Man dolls were sold?
(c) Which doll was most popular? least?
(d) How many dolls were sold altogether?

Carnival Workers

1. Popcorn is 25¢ a box.
   Mildred and Brian bought a box each.
   How much did they spend for popcorn?

2. The cost of a ride on a ferris wheel is 35¢ for children.
   Brian bought a ticket with a $1 bill.
   How much change did he get?

3. The cost of a ride on the ferris wheel for adults is 75¢.
   How much for Brian's Mom and Dad?

Find the cost of each lunch.

4. Hamburger
   Coffee
   Pie

5. Hot dog
   Coffee
   Pie

6. Hot dog
   Pop
   Candy apple

7. Hot dog
   Milk
   Candy apple

PRICES	
Hamburger	$1.10
Hot dog	0.85
Pop	0.35
Coffee	0.30
Milk	0.20
Candy apple	0.50
Pie	0.65

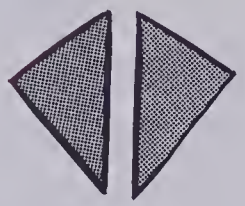
★ 8. Four went for a ride on the roller coaster.
   The cost was 60¢ each.
   How much change did they get from a $5 bill?

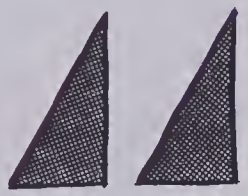
★ 9. Five went for a ride on the loop-the-loop.
   The cost was 75¢ each.
   How much change did they get from a $5 bill?

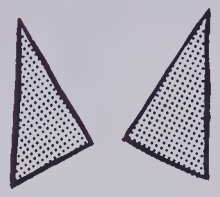
Chapter Test

1. Pick the slides.

(a)

(b) 

(c) 

(d) 

2. Match.

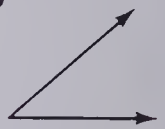
(a) angle
(b) closed curve
(c) segment
(d) open curve
(e) ray
(f) line

(i)

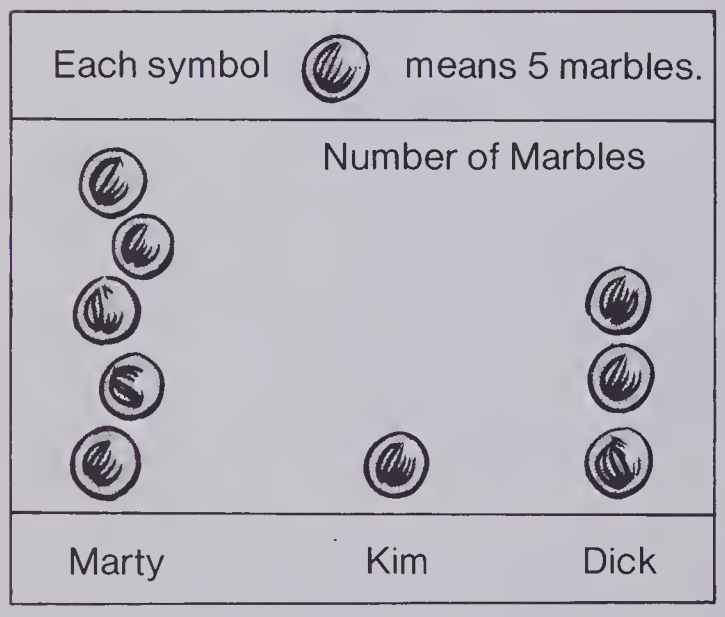
(ii)

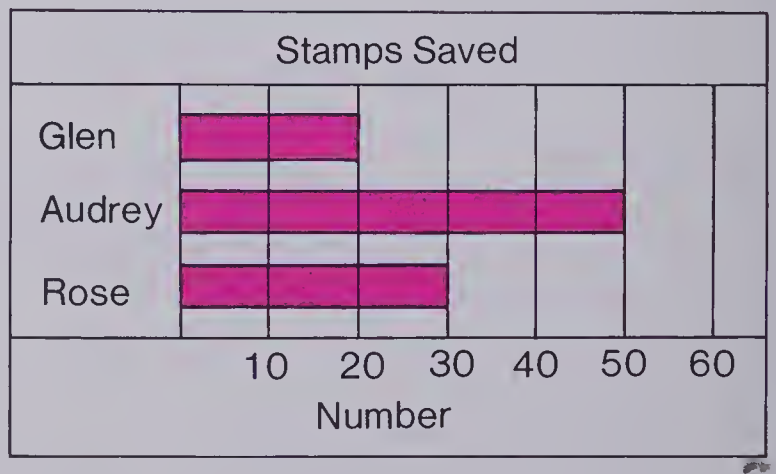
(iii)

(iv)

(v) 

(vi)





3. How many marbles does Marty have?

4. How would 15 marbles be shown?

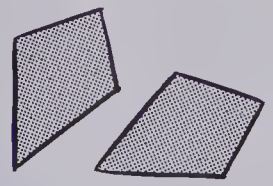
5. How many stamps did Glen save?

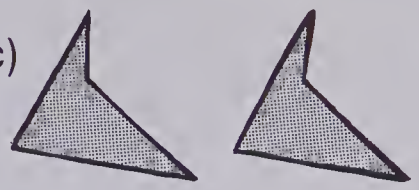
6. Who saved the most stamps?

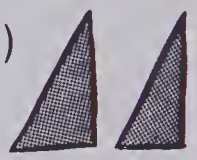
Cumulative Review

1. Pick the slides.

(a)

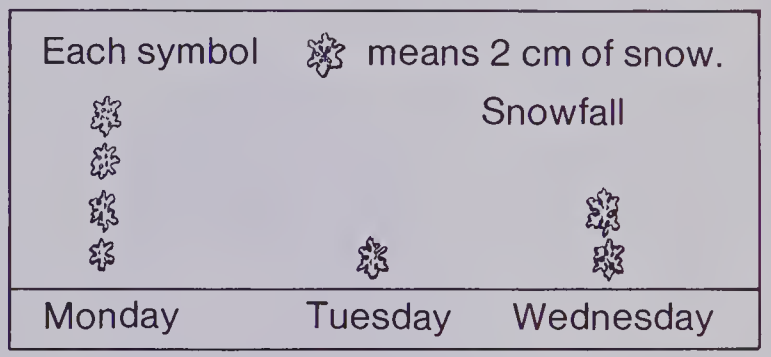
(b) 

(c) 

(d) 

2. On which day did it snow the most?

3. How much did it snow on Wednesday?



Add.

4. 51 + 42	**5.** 33 + 45	**6.** 476 + 313	**7.** 645 + 242	**8.** 400 + 308

Subtract.

9. 26 - 5	**10.** 68 - 23	**11.** 568 - 234	**12.** 867 - 354	**13.** 325 - 125

Multiply.

14. 5 × 4	**15.** 2 × 3	**16.** 10 × 3	**17.** 6 × 5	**18.** 9 × 0

Divide.

19. $5\overline{)10}$	**20.** $3\overline{)12}$	**21.** $2\overline{)6}$	**22.** $5\overline{)15}$	**23.** $4\overline{)16}$

24. Use your ruler.
How long is the watch?

25. How heavy is the block?

Chapter 10

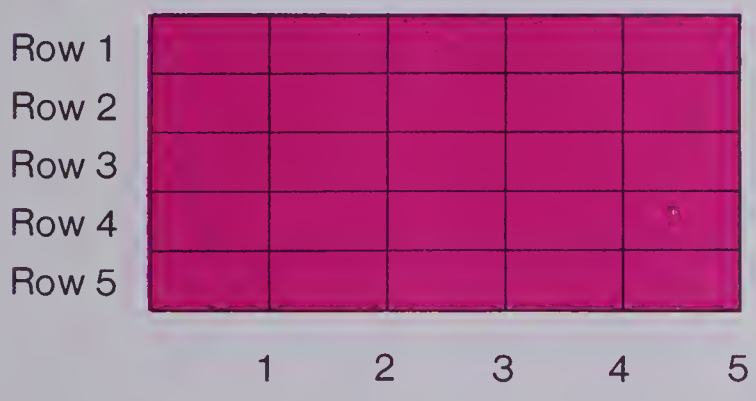
Whole Numbers

Multiplication and Division

Tune Up

1.	(a)	4 × 6	(b)	2 × 5	(c)	5 × 7	(d)	2 × 3	(e)	3 × 4
2.	(a)	3 × 1	(b)	4 × 4	(c)	5 × 3	(d)	2 × 7	(e)	3 × 2
3.	(a)	4 × 10	(b)	2 × 2	(c)	3 × 9	(d)	0 × 8	(e)	0 × 10
4.	(a)	5 × 8	(b)	3 × 8	(c)	4 × 2	(d)	2 × 10	(e)	3 × 10
5.	(a)	3 × 3	(b)	5 × 2	(c)	2 × 1	(d)	5 × 6	(e)	0 × 9

Make a bar graph to show how many you have right in each row.



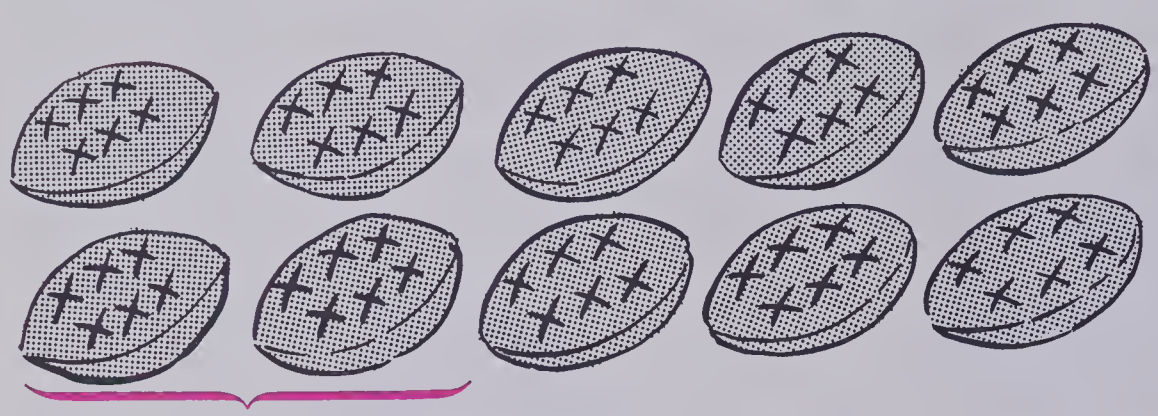
BRAINTICKLER

When I multiply me by myself, I appear in the product as the last digit.

$$\begin{array}{r} A \\ \times\ A \\ \hline B\,A \end{array}$$

Who am I?

Monster Multiplication (By 6)



4 groups of 6 → $4 \times 6 = 24$

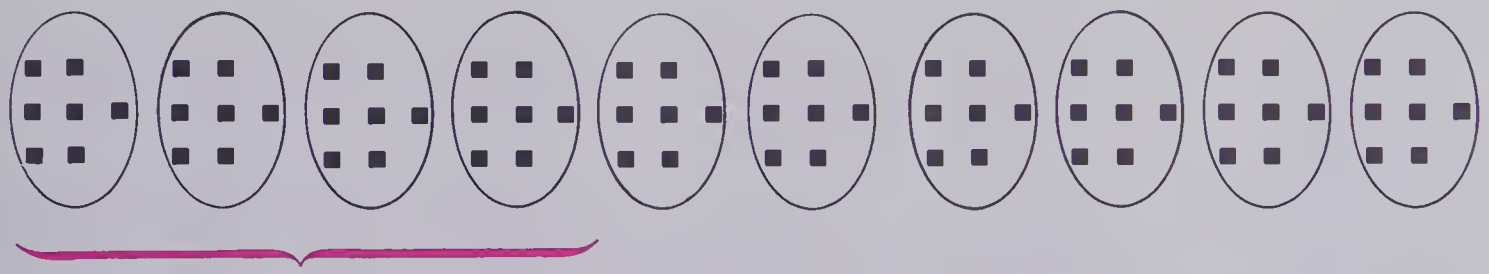
Since:
$6 \times 2 = 12$ Then: → $2 \times 6 = \blacksquare$
$6 \times 3 = 18$ → $3 \times 6 = \blacksquare$
$6 \times 4 = 24$ → $4 \times 6 = \blacksquare$
$6 \times 5 = 30$ → $5 \times 6 = \blacksquare$

Multiply.

1. $5 \times 6 = \blacksquare$
2. $2 \times 6 = \blacksquare$
3. $1 \times 6 = \blacksquare$
4. $10 \times 6 = \blacksquare$
5. $4 \times 6 = \blacksquare$
6. $6 \times 6 = \blacksquare$
7. $3 \times 6 = \blacksquare$
8. $0 \times 6 = \blacksquare$
9. $7 \times 6 = \blacksquare$

10. 6×6	11. 6×4	12. 6×8	13. 6×2	14. 6×0	15. 6×10
16. 6×1	17. 6×7	18. 6×3	19. 6×9	20. 6×7	21. 6×5
22. 4×3	23. 5×5	24. 3×6	25. 0×4	26. 1×3	27. 4×4

Monster Multiplication (By 7)



4 groups of 7 → $4 \times 7 = 28$

Since:
$7 \times 2 = 14$
$7 \times 3 = 21$
$7 \times 4 = 28$
$7 \times 5 = 35$

Then:
$2 \times 7 = \blacksquare$
$3 \times 7 = \blacksquare$
$4 \times 7 = \blacksquare$
$5 \times 7 = \blacksquare$

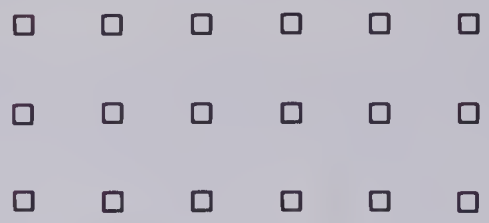
Multiply.

1. $10 \times 7 = \blacksquare$
2. $6 \times 7 = \blacksquare$
3. $2 \times 7 = \blacksquare$
4. $1 \times 7 = \blacksquare$
5. $9 \times 7 = \blacksquare$
6. $5 \times 7 = \blacksquare$
7. $4 \times 7 = \blacksquare$
8. $0 \times 7 = \blacksquare$
9. $3 \times 7 = \blacksquare$

10. 7×1	11. 7×6	12. 7×0	13. 7×3	14. 7×9	15. 7×5
16. 7×2	17. 7×10	18. 7×8	19. 7×7	20. 7×4	21. 7×6
22. 5×5	23. 3×1	24. 2×0	25. 3×3	26. 6×6	27. 4×3

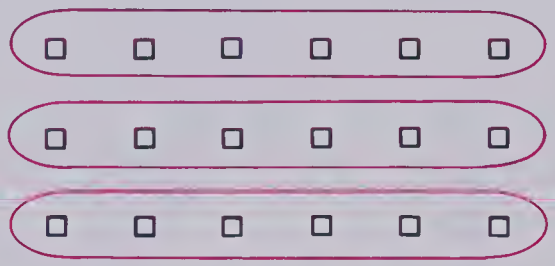
Practice: Arrays

This is an **array**.



Here are two multiplication stories you can write about it.

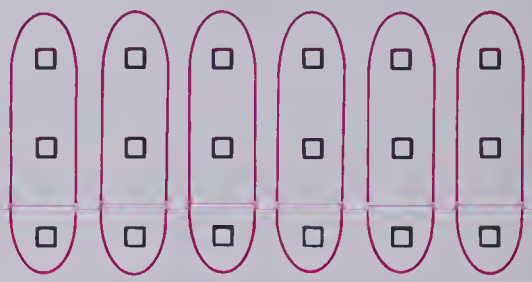
(a)



or

$3 \times 6 = 18$ □'s.

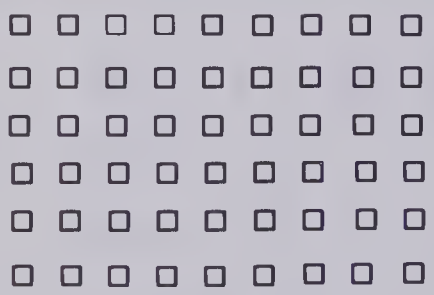
(b)



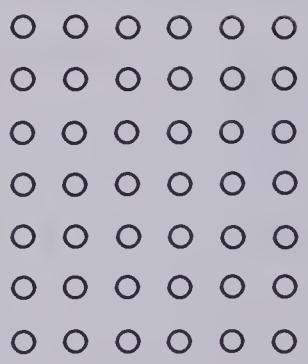
$6 \times 3 = 18$ □'s.

Make two multiplication stories to go with each of these arrays.

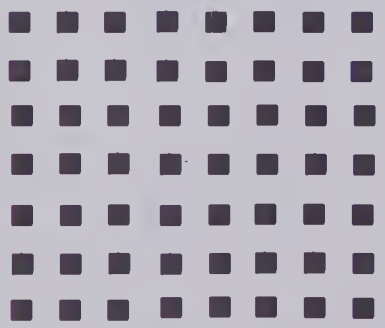
1.



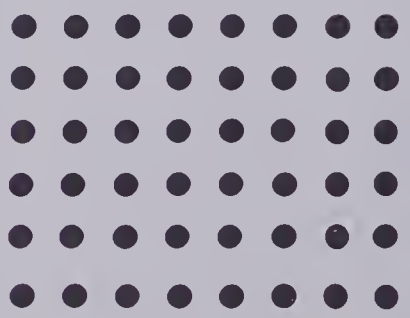
2.



3.



4.



Draw arrays to go with each.

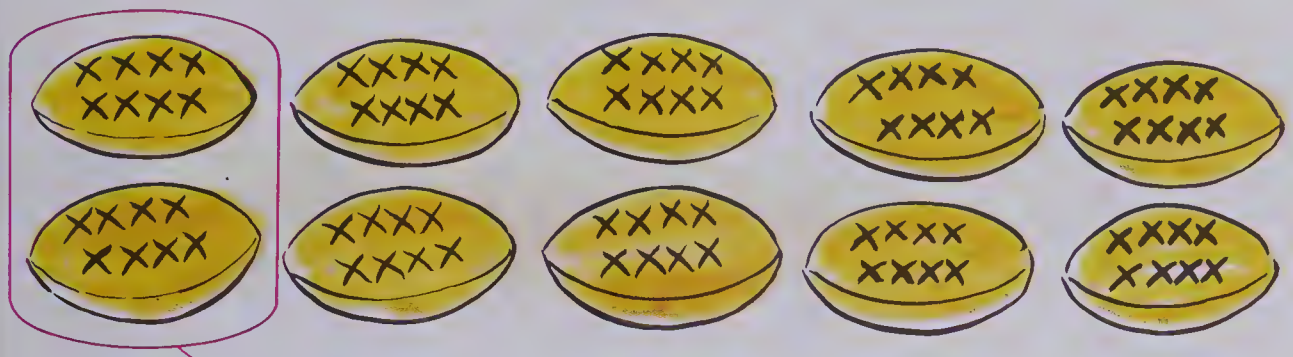
5. 6×6

6. 9×7

7. 4×7

8. 5×6

Monster Multiplication (By 8)



2 groups of 8 → $2 \times 8 = 16$

Since:
$8 \times 2 = 16$
$8 \times 3 = 24$
$8 \times 4 = 32$
$8 \times 5 = 40$

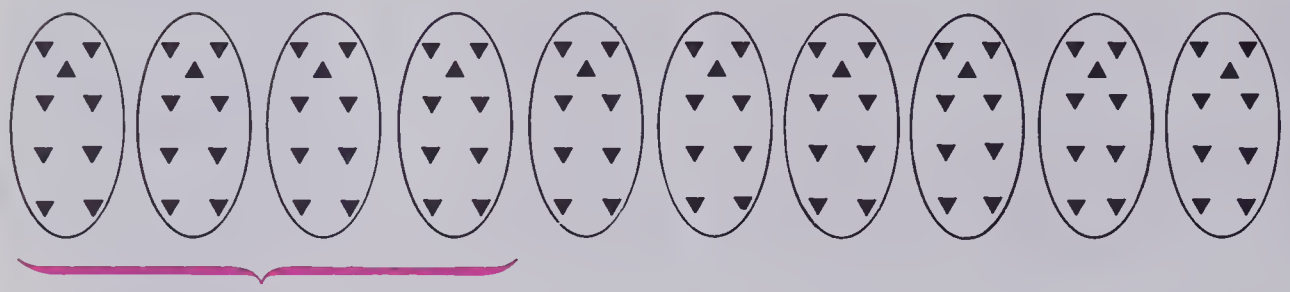
Then:
$2 \times 8 = \blacksquare$
$3 \times 8 = \blacksquare$
$4 \times 8 = \blacksquare$
$5 \times 8 = \blacksquare$

Multiply.

1. $10 \times 8 = \blacksquare$
2. $6 \times 8 = \blacksquare$
3. $9 \times 8 = \blacksquare$
4. $0 \times 8 = \blacksquare$
5. $1 \times 8 = \blacksquare$
6. $7 \times 8 = \blacksquare$
7. $3 \times 8 = \blacksquare$
8. $2 \times 8 = \blacksquare$
9. $5 \times 8 = \blacksquare$

10. 8×2	11. 8×5	12. 8×0	13. 8×3	14. 8×7	15. 8×4
16. 8×10	17. 8×1	18. 8×6	19. 8×8	20. 8×3	21. 8×9
22. 1×1	23. 2×2	24. 6×0	25. 7×1	26. 4×2	27. 3×5

Monster Multiplication (By 9)



4 groups of 9 → $4 \times 9 = 36$

Since: $9 \times 2 = 18$ Then: → $2 \times 9 = \blacksquare$

$9 \times 3 = 27$ → $3 \times 9 = \blacksquare$

$9 \times 4 = 36$ → $4 \times 9 = \blacksquare$

$9 \times 5 = 45$ → $5 \times 9 = \blacksquare$

Multiply.

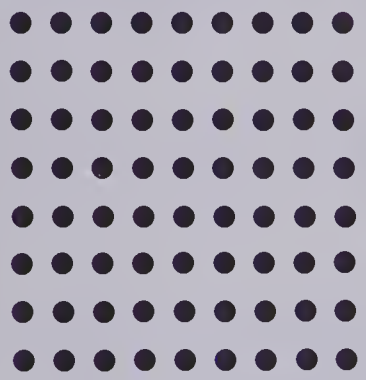
1. $10 \times 9 = \blacksquare$
2. $8 \times 9 = \blacksquare$
3. $6 \times 9 = \blacksquare$
4. $1 \times 9 = \blacksquare$
5. $2 \times 9 = \blacksquare$
6. $0 \times 9 = \blacksquare$
7. $5 \times 9 = \blacksquare$
8. $7 \times 9 = \blacksquare$
9. $9 \times 9 = \blacksquare$

10. 9×7	11. 9×3	12. 9×6	13. 9×0	14. 9×5	15. 9×9
16. 9×8	17. 9×1	18. 9×6	19. 9×2	20. 9×10	21. 9×4
22. 6×6	23. 3×7	24. 2×1	25. 0×6	26. 5×3	27. 4×2

Practice: Arrays

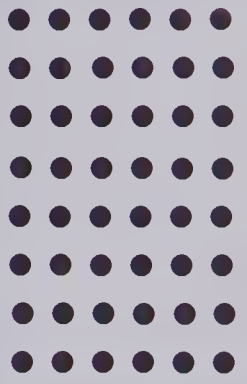
Make two multiplication stories to go with each of these arrays.

1.



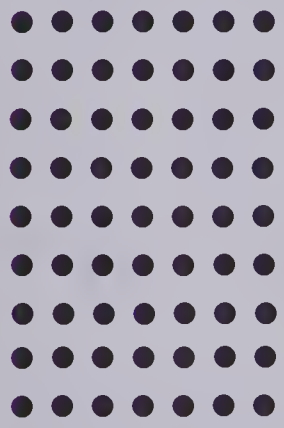
■ × ■ = ■
or
■ × ■ = ■

2.



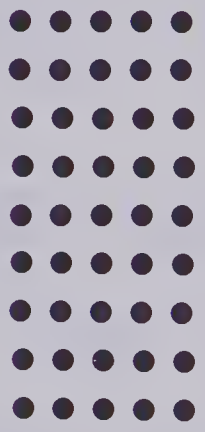
■ × ■ = ■
or
■ × ■ = ■

3.



■ × ■ = ■
or
■ × ■ = ■

4.



■ × ■ = ■
or
■ × ■ = ■

Draw arrays to go with each.

5. 6 × 8 **6.** 7 × 8 **7.** 7 × 7 **8.** 8 × 7

Now do these. Copy and complete.

9. 5 × 6 = ■ **10.** 7 × 6 = ■ **11.** 7 × 9 = ■ **12.** 8 × 9 = ■

13. 9 × 7 = ■ **14.** 9 × 8 = ■ **15.** 9 × 5 = ■ **16.** 6 × 9 = ■

17. 6 × 6 = ■ **18.** 8 × 8 = ■ **19.** 9 × 9 = ■ **20.** 9 × 6 = ■

Monster Picnic

12 ice-cream cones.
6 ice-cream cones for each monster.
How many monsters?

$12 \div 6 = 2$ or $6\overline{)12}$ (2)

1.

36 cookies.
6 in each group.
How many groups?

$6\overline{)36}$

2.

42 spots on the ants.
6 spots on each.
How many ants?

$6\overline{)42}$

3.

48 pop bottles.
6 in each case.
How many cases?

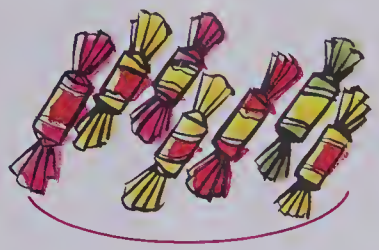
$6\overline{)48}$

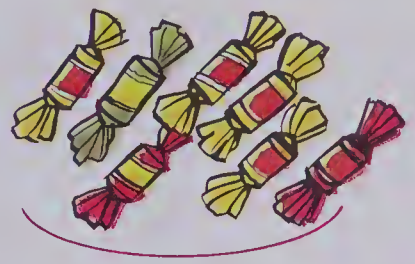
4.

60 petals on the flowers.
6 petals on each.
How many flowers?

$6\overline{)60}$

Monster Division (By 7)





21 candies.
7 candies for each monster.
How many monsters?

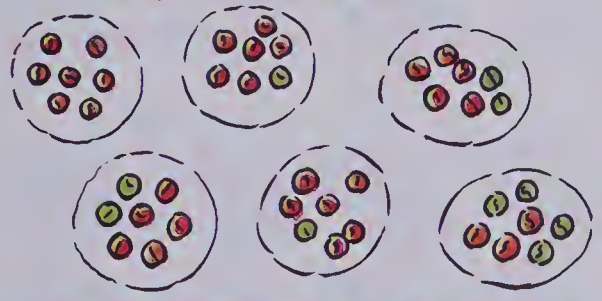
$21 \div 7 = 3$ or $7\overline{)21}$ 3

1.

35 buttons.
7 for each coat.
How many coats?

$7\overline{)35}$

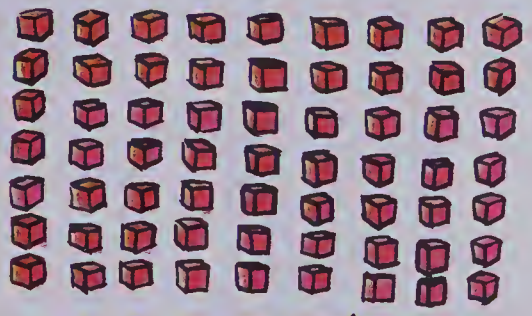
2.



42 marbles.
7 in each ring.
How many rings?

$7\overline{)42}$

3.



63 blocks.
7 in each column.
How many columns?

$7\overline{)63}$

4.

49 stars.
7 in each group.
How many groups?

$7\overline{)49}$

Practice

Copy and complete.

Divide by 6.

1. $6\overline{)24}$	**2.** $6\overline{)18}$	**3.** $6\overline{)54}$	**4.** $6\overline{)60}$
5. $6\overline{)48}$	**6.** $6\overline{)36}$	**7.** $6\overline{)12}$	**8.** $6\overline{)30}$
9. $6\overline{)42}$	**10.** $6\overline{)6}$	**11.** $6\overline{)48}$	**12.** $6\overline{)36}$

Divide by 7.

13. $7\overline{)56}$	**14.** $7\overline{)63}$	**15.** $7\overline{)21}$	**16.** $7\overline{)14}$
17. $7\overline{)28}$	**18.** $7\overline{)49}$	**19.** $7\overline{)35}$	**20.** $7\overline{)7}$
21. $7\overline{)56}$	**22.** $7\overline{)70}$	**23.** $7\overline{)49}$	**24.** $7\overline{)42}$

25. 24 legs on monsters.
6 legs on each.
How many monsters?

26. 21 spots on monsters.
7 spots on each.
How many monsters?

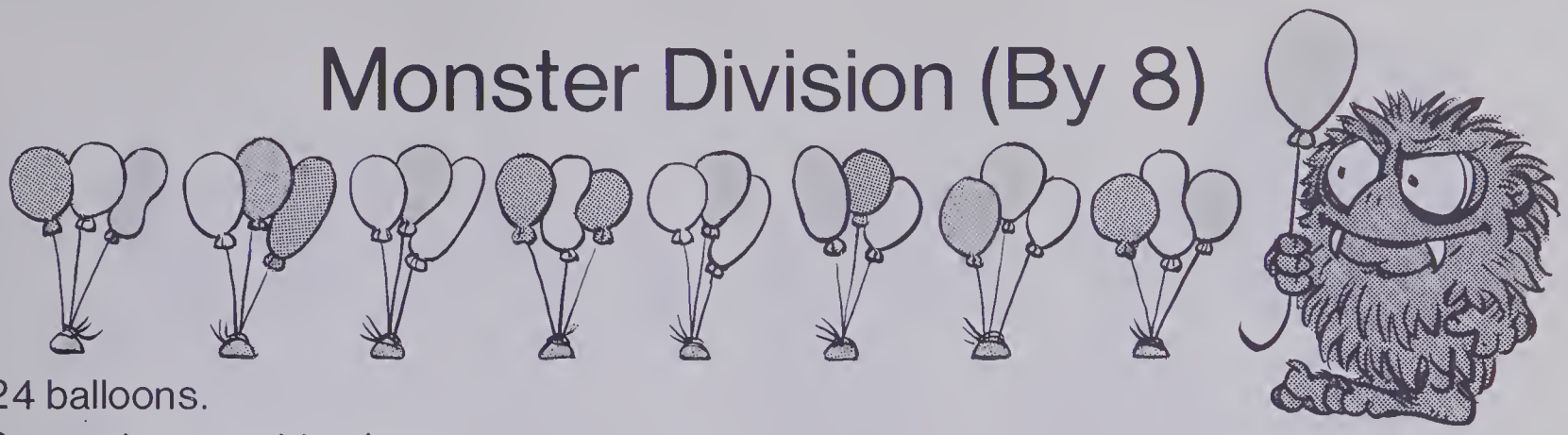
27. 36 cars in rows.
6 cars in each row.
How many rows?

28. 49 lions in prides.
7 lions in each pride.
How many prides?

29. 56 tables in classrooms.
7 tables in each.
How many classrooms?

30. 48 roses in pots.
6 roses in each.
How many pots?

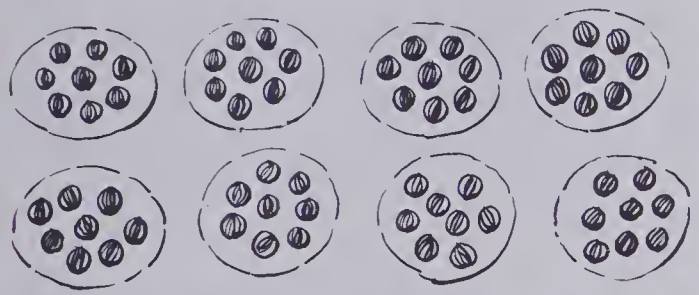
Monster Division (By 8)



24 balloons.
8 monsters want to share.
How many balloons for each monster?

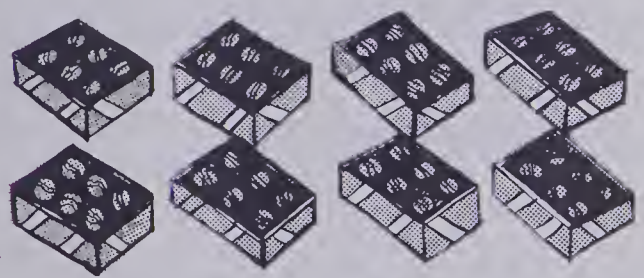
$24 \div 8 = 3$ or $8\overline{)24}^{\,3}$

1.



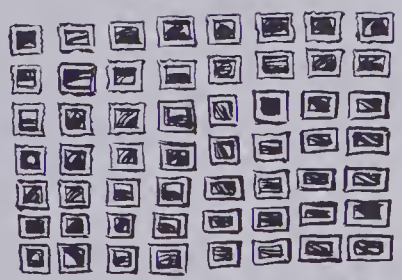
64 marbles.
8 monsters. $8\overline{)64}$
How many marbles each?

2.



48 chocolates.
8 monsters. $8\overline{)48}$
How many each?

3.

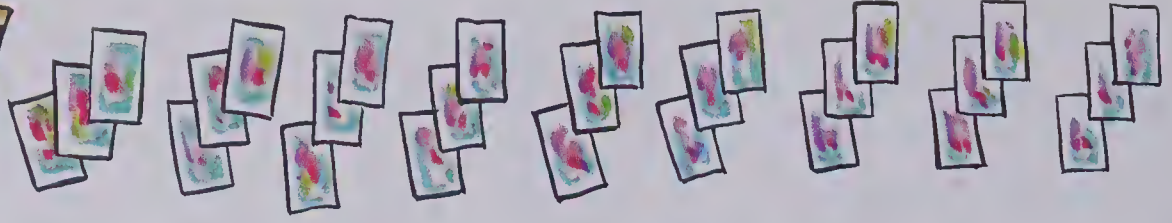


56 stamps.
8 columns. $8\overline{)56}$
How many in each column?

4.

40 buttons.
8 coats. $8\overline{)\,40}$
How many on each coat?

Monster Hockey



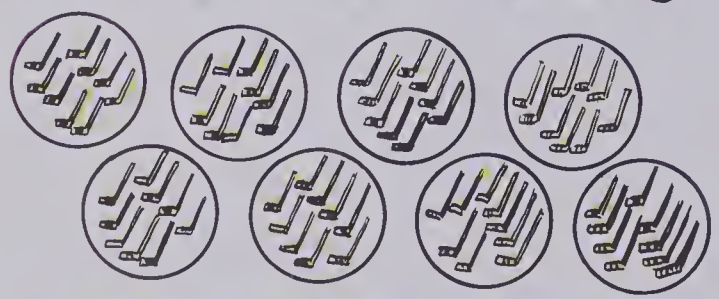
27 hockey cards.
9 monsters want to share.
How many hockey cards for each monster?

$27 \div 9 = 3$ or $9\overline{)27}$ $\quad 3$

1.

63 hockey pucks.
9 columns. $9\overline{)63}$
How many in each column?

2.



72 hockey sticks.
9 in each ring? $9\overline{)72}$
How many rings.

3.

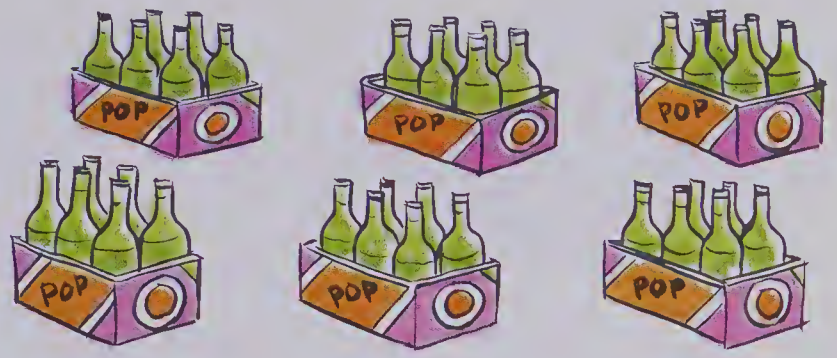
81 pop bottles.
9 cases. $9\overline{)81}$
How many in each case?

4.

54 players.
9 on each team. $9\overline{)54}$
How many teams?

Monster Mysteries

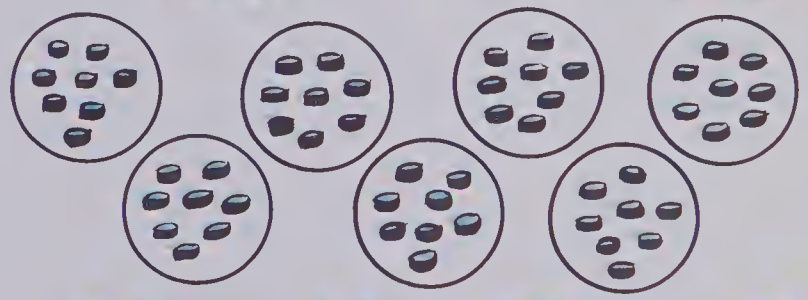
1. There are 36 pop bottles.
   Each carton holds 6 bottles.
   How many cartons do you need for all the bottles? $6\overline{)36}$



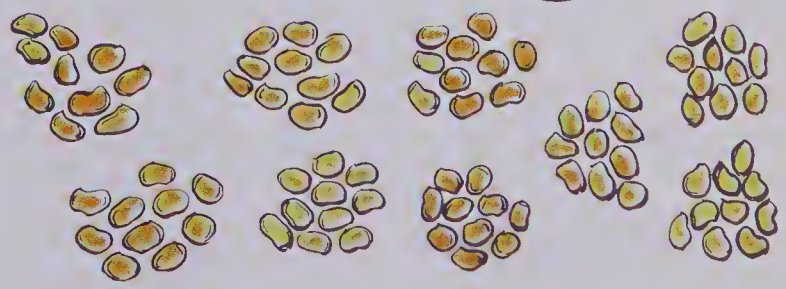
2. There are 5 monsters.
   Each monster has 7 hockey cards.
   How many cards do all the monsters have? $5 \times 7 = \blacksquare$

3. One monster has 6 teeth.
   How many teeth do 6 monsters have? $6 \times 6 = \blacksquare$

4. There were 56 hockey pucks.
   There were 8 pucks in each ring.
   How many rings were there? $8\overline{)56}$



5. There are 90 potato chips.
   9 monsters want to share.
   How many potato chips will each monster get? $9\overline{)90}$



Multiplication and Division Practice

Multiply.

1. 8×5	**2.** 9×6	**3.** 8×1	**4.** 8×9	**5.** 9×0	**6.** 8×7
7. 9×10	**8.** 6×6	**9.** 8×3	**10.** 7×6	**11.** 6×8	**12.** 8×8
13. 7×5	**14.** 8×2	**15.** 9×8	**16.** 8×0	**17.** 9×9	**18.** 8×10
19. 9×5	**20.** 7×8	**21.** 8×6	**22.** 9×1	**23.** 8×4	**24.** 9×7

Divide.

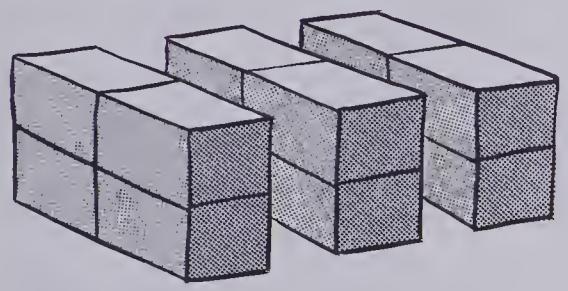
25. $8\overline{)24}$	**26.** $9\overline{)81}$	**27.** $9\overline{)9}$	**28.** $8\overline{)72}$
29. $9\overline{)72}$	**30.** $8\overline{)40}$	**31.** $9\overline{)18}$	**32.** $9\overline{)27}$
33. $9\overline{)36}$	**34.** $7\overline{)56}$	**35.** $8\overline{)64}$	**36.** $6\overline{)42}$
37. $8\overline{)48}$	**38.** $9\overline{)45}$	**39.** $9\overline{)63}$	**40.** $7\overline{)35}$
41. $9\overline{)54}$	**42.** $8\overline{)32}$	**43.** $8\overline{)16}$	**44.** $7\overline{)63}$

Multiplying With Brackets

Brackets mean "Do Me First!"

How many blocks in each pile?

(a)

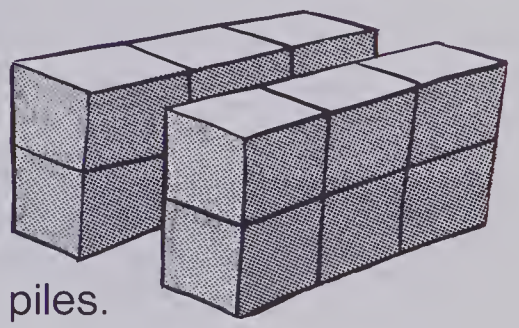


In each pile, there are
2 groups of 2.
There are 3 piles.

$(2 \times 2) \times 3$

$4 \times 3 = 12$ blocks

(b)



There are 2 piles.
In each pile, there are
2 groups of 3.

$2 \times (2 \times 3)$

$2 \times 6 = 12$ blocks

$$(2 \times 2) \times 3 = 2 \times (2 \times 3)$$

Multiply two different ways. Use brackets.

1. $1 \times 2 \times 3$

$(1 \times 2) \times 3$

$\blacksquare \times 3 = \blacksquare$

$1 \times (2 \times 3)$

$1 \times \blacksquare = \blacksquare$

2. $2 \times 3 \times 4$
3. $1 \times 4 \times 2$
4. $3 \times 2 \times 3$
5. $5 \times 1 \times 2$
6. $1 \times 1 \times 3$
7. $2 \times 1 \times 4$
8. $2 \times 2 \times 3$
9. $3 \times 3 \times 1$
★10. $10 \times 2 \times 4$

Multiplication Table

This is a **multiplication table.**
It can help you to multiply numbers.

X	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

6×4

(a) Find 6 in the blue column.

(b) Go right from 6.

(c) Find 4 in the red row.

(d) Go down from 4.

The answer is in the square where the two number paths meet.

$6 \times 4 = 24$

1. $7 \times 5 =$ ■
2. $8 \times 4 =$ ■
3. $6 \times 6 =$ ■
4. $9 \times 4 =$ ■
5. $5 \times 3 =$ ■
6. $7 \times 9 =$ ■
7. $8 \times 6 =$ ■
8. $7 \times 7 =$ ■
9. $5 \times 8 =$ ■
10. $9 \times 8 =$ ■
11. $4 \times 7 =$ ■
12. $6 \times 9 =$ ■
13. $8 \times 8 =$ ■
14. $8 \times 7 =$ ■
15. $9 \times 3 =$ ■

Monster Multiplication (By 10)

How much? 1 dime = 10¢

4 dimes.
$4 \times 10¢ = 40¢$

8 dimes.
$8 \times 10¢ = 80¢$

Write the multiplication stories for 10.

1.
$2 \times 10 = \blacksquare$

2.
$4 \times 10 = \blacksquare$

3.
$6 \times 10 = \blacksquare$

4.
$8 \times 10 = \blacksquare$

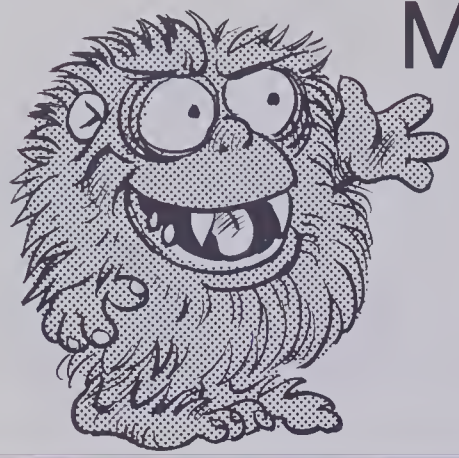
Copy and complete.

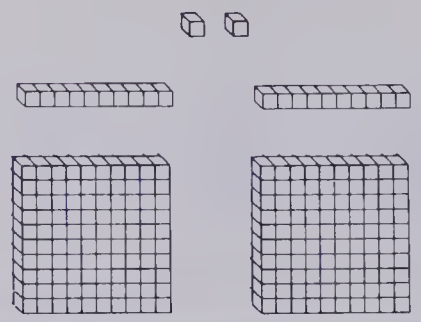
5. $7 \times 10 = \blacksquare$
6. $5 \times 10 = \blacksquare$
7. $4 \times 10 = \blacksquare$
8. $8 \times 10 = \blacksquare$
9. $1 \times 10 = \blacksquare$
10. $2 \times 10 = \blacksquare$
11. $3 \times 10 = \blacksquare$
12. $9 \times 10 = \blacksquare$
13. $0 \times 10 = \blacksquare$

★ Watch these.

14. $10 \times 10 = \blacksquare$
15. $40 \times 10 = \blacksquare$
16. $50 \times 10 = \blacksquare$
17. $80 \times 10 = \blacksquare$
18. $30 \times 10 = \blacksquare$
19. $60 \times 10 = \blacksquare$

Monster Multiplication (By 100)





$1 \times 2 = 2$

$10 \times 2 = 20$

$100 \times 2 = 200$

Multiply by 10.

1. 6	2. 5	3. 9	4. 7
5. 2	6. 3	7. 8	8. 4
9. 50	10. 20	11. 30	12. 70

Multiply by 100.

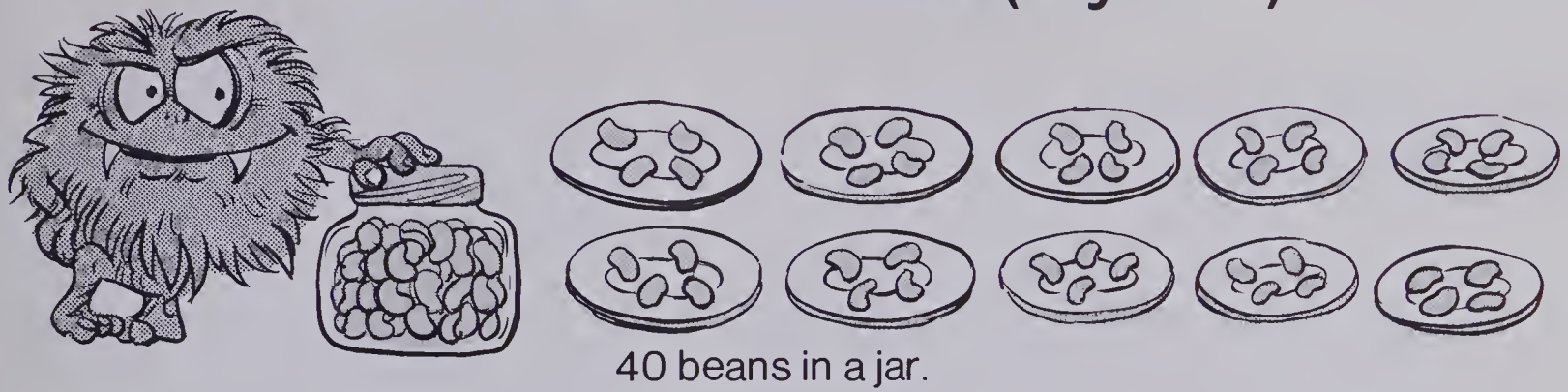
13. 5	14. 3	15. 4	16. 1
17. 2	18. 6	19. 8	20. 7
21. 50	22. 20	23. 30	24. 70

Copy and complete.

25. $10 \times 40 = \blacksquare$	26. $100 \times 6 = \blacksquare$	27. $10 \times 60 = \blacksquare$
28. $100 \times 7 = \blacksquare$	29. $100 \times 90 = \blacksquare$	30. $100 \times 40 = \blacksquare$
31. $100 \times 50 = \blacksquare$	32. $100 \times 70 = \blacksquare$	33. $100 \times 100 = \blacksquare$

★ 34. What have you discovered about multiplying by 10 and 100?

Monster Division (By 10)



40 beans in a jar.

Put the beans on 10 plates.
How many beans on each plate?

$$10\overline{)40} = 4$$ → 4 beans on each plate.

Copy and complete.

1. $10\overline{)30}$	**2.** $10\overline{)60}$	**3.** $10\overline{)90}$
4. $10\overline{)10}$	**5.** $10\overline{)50}$	**6.** $10\overline{)20}$
7. $10\overline{)40}$	**8.** $10\overline{)70}$	**9.** $10\overline{)80}$
10. $10\overline{)100}$	**11.** $10\overline{)500}$	**12.** $10\overline{)300}$
13. $10\overline{)400}$	**14.** $10\overline{)800}$	**15.** $10\overline{)600}$
16. $10\overline{)200}$	**17.** $10\overline{)700}$	★ **18.** $10\overline{)1000}$

19. Joan has 90¢ in dimes.
How many dimes does she have?

20. A piggy bank has 60¢ in dimes.
How many dimes in the bank?

21. 300 sandwiches at a picnic.
10 monsters want to share.
How many sandwiches for each?

22. 70 children want to play hockey.
10 children on each team.
How many teams?

Multiplication Table

This is a multiplication table.
It can help you to divide.

X	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

$4\overline{)24}$

(a) Find 4 in the top row.

(b) Go down to 24.

(c) Go left to the red column.

The answer is in the box in the red column.

$$4\overline{)24}\quad 6$$

Copy and complete using the table above.

1. $6\overline{)36}$
2. $8\overline{)56}$
3. $9\overline{)72}$
4. $4\overline{)36}$
5. $5\overline{)45}$
6. $7\overline{)49}$
7. $8\overline{)48}$
8. $6\overline{)42}$
9. $3\overline{)27}$
10. $4\overline{)32}$
11. $7\overline{)63}$
12. $3\overline{)27}$
13. $5\overline{)40}$
14. $9\overline{)81}$
15. $8\overline{)64}$
16. $5\overline{)35}$

Practice

1.	(a)	4×6	(b)	5×9	(c)	6×7	(d)	3×8	(e)	6×6
2.	(a)	5×8	(b)	1×9	(c)	3×10	(d)	7×7	(e)	5×10
3.	(a)	9×7	(b)	7×6	(c)	7×10	(d)	9×8	(e)	9×6
4.	(a)	4×9	(b)	8×7	(c)	2×8	(d)	5×6	(e)	4×8
5.	(a)	$8\overline{)64}$	(b)	$6\overline{)24}$	(c)	$9\overline{)72}$	(d)	$7\overline{)21}$	(e)	$7\overline{)35}$
6.	(a)	$8\overline{)32}$	(b)	$9\overline{)54}$	(c)	$10\overline{)90}$	(d)	$9\overline{)18}$	(e)	$7\overline{)42}$
7.	(a)	$6\overline{)36}$	(b)	$8\overline{)72}$	(c)	$7\overline{)63}$	(d)	$8\overline{)40}$	(e)	$7\overline{)56}$
8.	(a)	$9\overline{)36}$	(b)	$6\overline{)48}$	(c)	$8\overline{)16}$	(d)	$9\overline{)81}$	(e)	$9\overline{)63}$

BRAINTICKLER

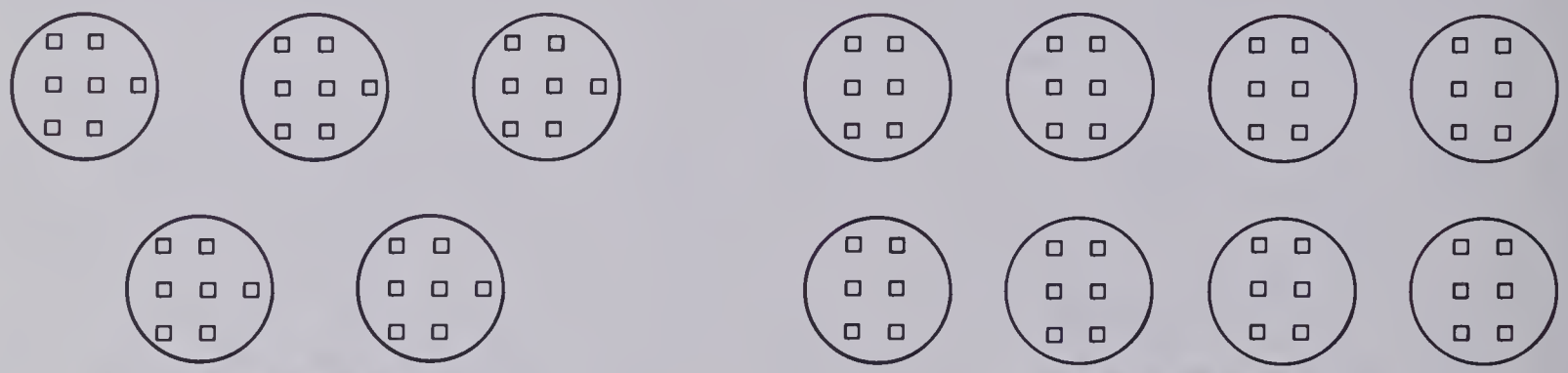
Write all the multiplication stories from $9 \times 1 = 9$ to $9 \times 10 = 90$.

Add all the single digits in each answer and find a surprise!

Comparing Products

Which is more?

5 × 7 or 8 × 6



$5 \times 7 = 35$ $8 \times 6 = 48$

So: $5 \times 7 < 8 \times 6$.

Put $<$, $>$, or $=$ in the ●. Copy and complete.

1. $4 \times 6 \bullet 5 \times 5$	**2.** $8 \times 7 \bullet 8 \times 8$	**3.** $6 \times 8 \bullet 8 \times 6$
4. $4 \times 8 \bullet 5 \times 9$	**5.** $9 \times 8 \bullet 7 \times 6$	**6.** $3 \times 7 \bullet 5 \times 3$
7. $7 \times 5 \bullet 5 \times 7$	**8.** $8 \times 7 \bullet 6 \times 5$	**9.** $6 \times 7 \bullet 7 \times 6$
10. $7 \times 4 \bullet 6 \times 3$	**11.** $8 \times 9 \bullet 9 \times 8$	**12.** $5 \times 4 \bullet 6 \times 6$

★ Which would you rather have:

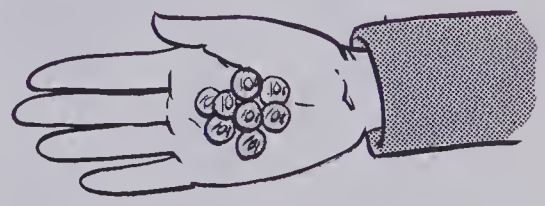
7 × 6 pet rocks or 8 × 5 pet rocks?

Why?

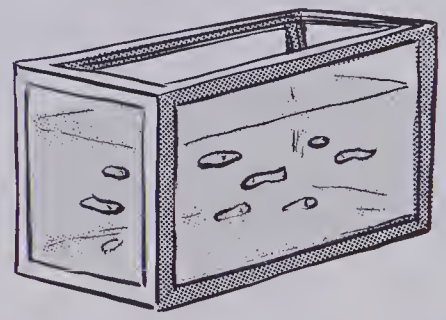
Mysteries

1. Every child had 10 stars for math.
There were 28 children in the class.
How many stars were there altogether?

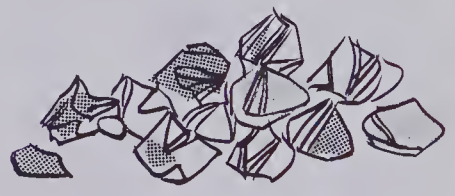
2. Jane has 80¢ in dimes.
How many dimes does she have?



3. There were 120 polliwogs in the tank.
Ten children will take them back to the pond.
How many polliwogs will each child carry?

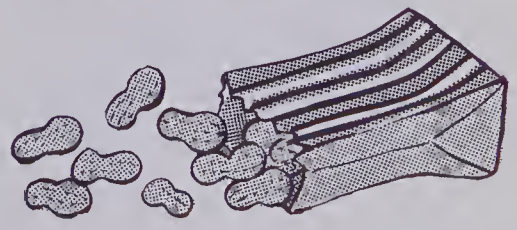


4. Jim's class cleaned the play area.
Each child picked up 10 pieces of paper.
There are 32 children in the class.
How many pieces of paper did they pick up altogether?



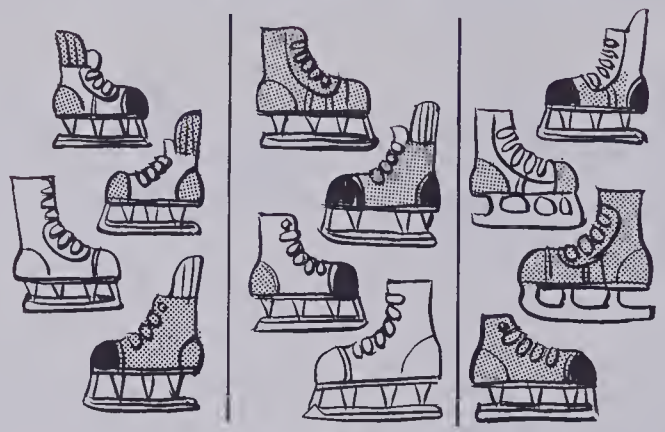
★5. Steven has $1.50 in dimes.
How many dimes does he have?

★6. Tom shared 99 peanuts with 9 friends.
How many peanuts did each friend get?



Parts of a Set

The skates are separated into **thirds.**

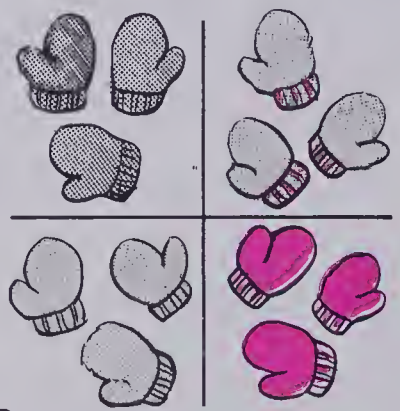


$\frac{1}{3}$

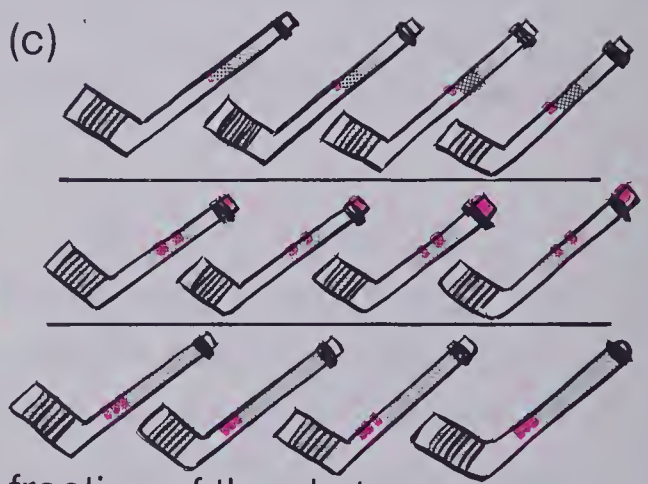
1. Which of the groups are separated into halves? thirds? fourths?

(a)

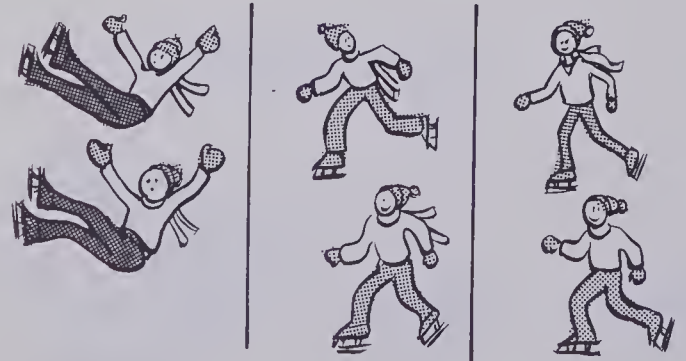
(b)



(c)



2. What fraction of the skaters have fallen?



one half one third one sixth

3. What fraction of the skaters are holding hands?

one half one fourth one fifth

Doctor

1. 7 monsters to see Doctor Quack.
   3 blue pills for each.
   How many blue pills?

2. 45 patients in waiting room.
   5 doctors to see the patients.
   How many patients for each doctor?

3. 5 bottles of cotton balls.
   10 cotton balls in each bottle.
   How many cotton balls altogether?

4. 56 doctors in the hospital.
   8 doctors on each floor.
   How many floors in the hospital?

5. 5 babies in each nursery room.
   6 nursery rooms in the hospital.
   How many babies?

6. The hospital is having a blood drive.
   48 people come to give blood.
   6 nurses are on duty.
   How many people for each nurse?

"Leftovers"

There are 13 cookies.
A monster put 3 on each plate.
How many plates?
How many "leftovers"?

How many groups of 3 in 13?

4 groups of 3 = 12 and 1 left over.

So there are 4 plates and
1 cookie is left over.

The number "left over" is called the **remainder.** You can write it as R to save time.

$$3\overline{)13}\quad 4 \text{ and } 1 \text{ left over} \qquad 3\overline{)13}\quad 4 \text{ R } 1$$

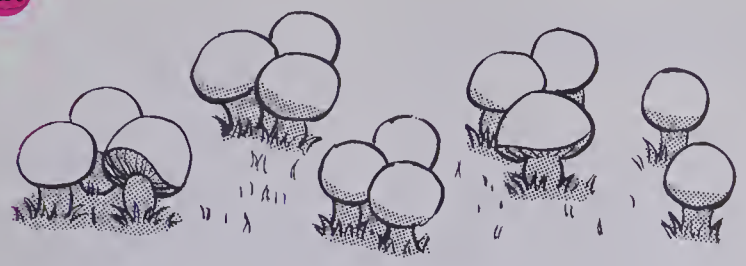
Divide. Find the number of groups and the remainder.

1.

17 stars.
5 in each group.

$$5\overline{)17}\quad \blacksquare \text{ R } \blacksquare$$

2.



14 mushrooms.
3 in each group.

■ R ■
3⟌14

3.

34 peanuts.
6 in each group.

■R■
6⟌34

4.

19 flowers.
4 in each group.

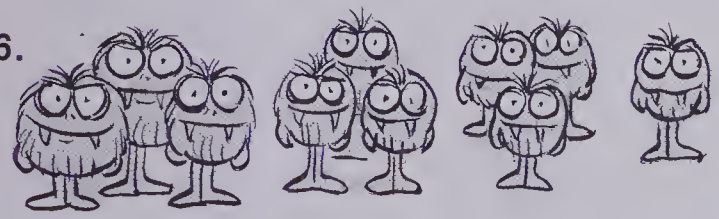
■R■
4⟌19

5.

24 marbles.
5 in each group.

■R■
5⟌24

6.



10 monsters.
3 in each group.

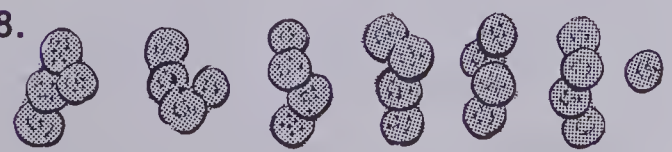
■ R ■
3⟌10

7.

15 hats.
2 in each group.

■ R ■
2⟌15

8.



25 cookies.
4 in each group.

■ R ■
4⟌25

Chapter Test

Multiply.

1.	(a) 7×9	(b) 8×6	(c) 6×7	(d) 7×4
2.	(a) 9×10	(b) 9×6	(c) 6×6	(d) 8×8
3.	(a) 4×10	(b) 4×8	(c) 4×9	(d) 6×8
4.	(a) 2×9	(b) 7×10	(c) 5×9	(d) 8×7

Divide.

5.	(a) $7\overline{)49}$	(b) $6\overline{)48}$	(c) $9\overline{)63}$	(d) $9\overline{)45}$
6.	(a) $8\overline{)48}$	(b) $8\overline{)40}$	(c) $7\overline{)63}$	(d) $6\overline{)24}$
7.	(a) $9\overline{)72}$	(b) $10\overline{)40}$	(c) $7\overline{)28}$	(d) $6\overline{)60}$
8.	(a) $6\overline{)42}$	(b) $9\overline{)27}$	(c) $8\overline{)24}$	(d) $9\overline{)81}$
9.	(a) $10\overline{)80}$	(b) $8\overline{)56}$	(c) $7\overline{)35}$	(d) $6\overline{)36}$

10. There were 81 hockey cards.
Each child got 9 cards.
How many children?

11. There were 29 cards.
7 monsters will share.
How many cards for each?
How many cards left over?

Cumulative Review

Add.

1. (a) $\begin{array}{r} 34 \\ +\ 28 \\ \hline \end{array}$ (b) $\begin{array}{r} 165 \\ +\ 74 \\ \hline \end{array}$ (c) $\begin{array}{r} 0.2 \\ +\ 0.5 \\ \hline \end{array}$ (d) $\begin{array}{r} 0.4 \\ +\ 0.5 \\ \hline \end{array}$ (e) $\begin{array}{r} \$2.63 \\ +\ 0.32 \\ \hline \end{array}$

Subtract.

2. (a) $\begin{array}{r} 53 \\ -\ 15 \\ \hline \end{array}$ (b) $\begin{array}{r} 467 \\ -\ 168 \\ \hline \end{array}$ (c) $\begin{array}{r} 0.5 \\ -\ 0.3 \\ \hline \end{array}$ (d) $\begin{array}{r} 0.9 \\ -\ 0.6 \\ \hline \end{array}$ (e) $\begin{array}{r} \$1.62 \\ -\ 1.24 \\ \hline \end{array}$

Multiply.

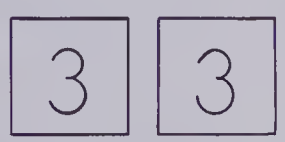
3. (a) $\begin{array}{r} 8 \\ \times\ 9 \\ \hline \end{array}$ (b) $\begin{array}{r} 4 \\ \times\ 5 \\ \hline \end{array}$ (c) $\begin{array}{r} 1 \\ \times\ 8 \\ \hline \end{array}$ (d) $\begin{array}{r} 2 \\ \times\ 10 \\ \hline \end{array}$ (e) $\begin{array}{r} 0 \\ \times\ 3 \\ \hline \end{array}$

Divide.

4. (a) $8\overline{)64}$ (b) $9\overline{)54}$ (c) $10\overline{)40}$ (d) $5\overline{)45}$ (e) $2\overline{)20}$

5. Is it a slide? Write Yes or No.

(a)

(b) 

6. Write a fraction for the coloured part.

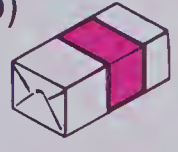
(a)

(b)

7. How much money?

8. Name a unit to measure each.

(a)
Shampoo

(b) 
Butter

(c)

Skills Check Up - Chapters 1 to 5

Give the correct answer for each: (a), (b), (c), or (d).

1.
$$\begin{array}{r} 54 \\ +\ 23 \\ \hline \end{array}$$
(a) 31 (b) 77 (c) 87 (d) 81

2.
$$\begin{array}{r} 65 \\ +\ 48 \\ \hline \end{array}$$
(a) 17 (b) 103 (c) 113 (d) 1013

3.
$$\begin{array}{r} 503 \\ +\ 109 \\ \hline \end{array}$$
(a) 602 (b) 612 (c) 713 (d) 6012

4.
$$\begin{array}{r} 463 \\ +\ 457 \\ \hline \end{array}$$
(a) 810 (b) 814 (c) 910 (d) 920

5.
$$\begin{array}{r} 68 \\ -\ 23 \\ \hline \end{array}$$
(a) 45 (b) 54 (c) 56 (d) 91

6.
$$\begin{array}{r} 72 \\ -\ 36 \\ \hline \end{array}$$
(a) 26 (b) 36 (c) 46 (d) 64

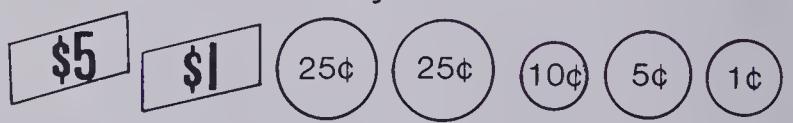
7.
$$\begin{array}{r} 680 \\ -\ 218 \\ \hline \end{array}$$
(a) 462 (b) 472 (c) 468 (d) 478

8.
$$\begin{array}{r} 703 \\ -\ 446 \\ \hline \end{array}$$
(a) 263 (b) 257 (c) 267 (d) 367

9. How many centimetres?

(a) 2 cm (b) 3 cm
(c) 10 cm (d) 30 cm

10. How much money?



(a) $5.56 (b) $5.66
(c) $6.56 (d) $6.66

11. In 3456, the 5 means:

(a) 5 ones (b) 5 tens
(c) 5 hundreds (d) 5 thousands

12. The fraction shaded is:

(a) $\frac{1}{6}$ (b) $\frac{1}{10}$
(c) $\frac{6}{10}$ (d) $\frac{1}{2}$

13. The shaded portion is:

(a) 0.1 (b) 0.4
(c) 0.5 (d) 1.14

14. 236 red cars.
48 blue cars.
How many altogether?

(a) 188 (b) 274 (c) 284 (d) 716

Skills Check Up - Chapters 6 to 10

Give the correct answer for each: (a), (b), (c), or (d).

1. 3×5 (a) 10 (b) 12 (c) 15 (d) 18

2. 4×7 (a) 28 (b) 32 (c) 42 (d) 47

3. 8×3 (a) 12 (b) 16 (c) 24 (d) 32

4. 6×7 (a) 21 (b) 24 (c) 28 (d) 42

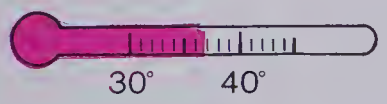
5. $27 \div 3$ (a) 8 (b) 9 (c) 10 (d) 21

6. $32 \div 8$ (a) 3 (b) 4 (c) 6 (d) 16

7. $3\overline{)18}$ (a) 3 (b) 6 (c) 9 (d) 12

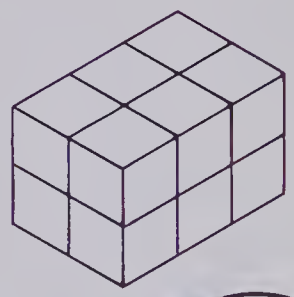
8. $9\overline{)63}$ (a) 5 (b) 6 (c) 7 (d) 8

9. The temperature is:



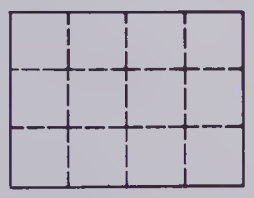
(a) 37°C (b) 42°C
(c) 45°C (d) 47°C

10. The volume is:



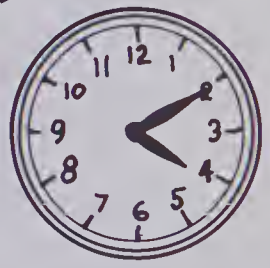
(a) 6 (b) 10
(c) 12 (d) 16

11. The area is:



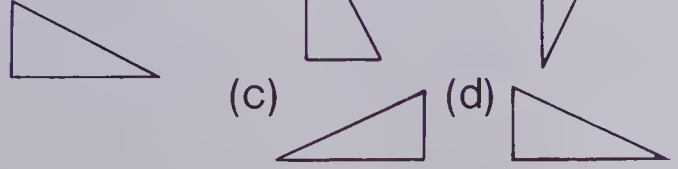
(a) 8 (b) 10
(c) 12 (d) 16

12. The time is:



(a) 02:20 (b) 01:30
(c) 06:40 (d) 04:10

13. The slide is:



14. 9 plants.
3 flowers on each.
How many flowers?

(a) 3 (b) 6 (c) 12 (d) 27

Extra Practice—Chapter One

Add.

1.	(a) $4 + 6$	(b) $3 + 2$	(c) $2 + 7$	(d) $5 + 5$	(e) $6 + 3$
2.	(a) $2 + 8$	(b) $5 + 4$	(c) $3 + 3$	(d) $1 + 7$	(e) $5 + 2$
3.	(a) $6 + 9$	(b) $8 + 8$	(c) $5 + 7$	(d) $8 + 5$	(e) $7 + 4$
4.	(a) $8 + 9$	(b) $7 + 6$	(c) $4 + 9$	(d) $8 + 6$	(e) $9 + 9$
5.	(a) $7 + 8$	(b) $2 + 9$	(c) $7 + 7$	(d) $8 + 3$	(e) $5 + 6$

Subtract.

6.	(a) $9 - 2$	(b) $12 - 6$	(c) $8 - 3$	(d) $15 - 7$	(e) $10 - 7$
7.	(a) $11 - 7$	(b) $17 - 8$	(c) $14 - 7$	(d) $9 - 5$	(e) $13 - 9$
8.	(a) $16 - 8$	(b) $18 - 9$	(c) $17 - 9$	(d) $11 - 7$	(e) $15 - 6$
9.	(a) $12 - 4$	(b) $10 - 8$	(c) $13 - 7$	(d) $16 - 0$	(e) $14 - 6$
10.	(a) $17 - 9$	(b) $18 - 3$	(c) $11 - 8$	(d) $18 - 6$	(e) $15 - 8$

Extra Practice—Chapter Two

Add.

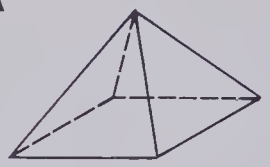
1.	(a) 35 + 4	(b) 6 + 62	(c) 25 + 3	(d) 3 + 44	(e) 72 + 7
2.	(a) 12 + 45	(b) 34 + 33	(c) 85 + 10	(d) 32 + 57	(e) 53 + 34
3.	(a) 47 + 34	(b) 38 + 25	(c) 19 + 36	(d) 57 + 17	(e) 79 + 19
4.	(a) 134 + 27	(b) 339 + 43	(c) 276 + 416	(d) 527 + 228	(e) 716 + 139

Subtract.

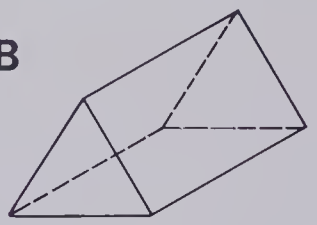
5.	(a) 17 - 3	(b) 15 - 2	(c) 18 - 7	(d) 16 - 4	(e) 14 - 2
6.	(a) 87 - 54	(b) 76 - 43	(c) 98 - 24	(d) 49 - 32	(e) 57 - 25
7.	(a) 679 - 32	(b) 878 - 54	(c) 584 - 271	(d) 897 - 415	(e) 695 - 254
8.	(a) 977 - 240	(b) 758 - 506	(c) 843 - 205	(d) 482 - 166	(e) 692 - 413
9.	(a) 503 - 291	(b) 654 - 162	(c) 817 - 498	(d) 786 - 298	(e) 800 - 592

Extra Practice—Chapter Three

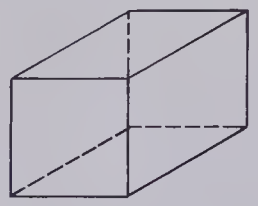
A



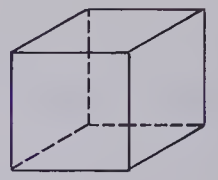
B



C

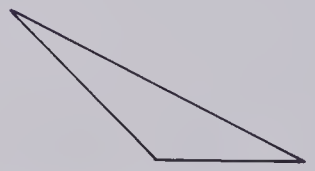


D

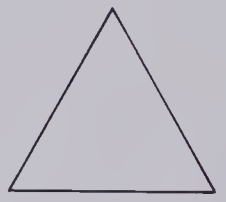


1. Give the name of each shape.
2. Make skeleton shapes of each.
3. How many *different* shaped faces on each?
4. Trace the *different* faces from each shape.
5. Cut out each face.
   Find lines of symmetry by folding.

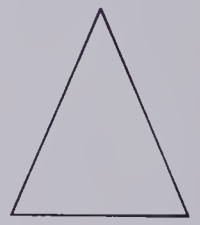
E



F



G



6. Which triangle has:
   (a) 3 sides the same length?
   (b) 2 sides the same length?
   (c) no sides the same length?
7. Use dot paper.
   (a) Draw a triangle with 3 sides the same length.
   (b) Draw a triangle with 2 sides the same length.
8. Cut out the triangles you have drawn.
   Fold to find lines of symmetry.

Extra Practice—Chapter Four

1. What is the value of each underlined digit?

(a) 32<u>5</u>6 (b) 56<u>1</u>4 (c) 71<u>0</u>8 (d) <u>9</u>145 (e) 68<u>1</u>2

(f) 60<u>4</u>0 (g) <u>7</u>506 (h) 834<u>9</u> (i) 602<u>1</u> (j) <u>2</u>56

2. Write the next four numerals in the pattern.

(a) 2232, 2233, 2234, ■, ■, ■, ■ (b) 1989, 1990, 1991, ■, ■, ■, ■

(c) 3086, 3087, 3088, ■, ■, ■, ■ (d) 4996, 4997, 4998, ■, ■, ■, ■

3. Compare. Use $>$, $<$ or $=$.

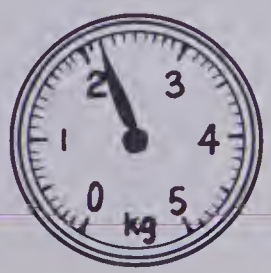
(a) 3215 ● 3216 (b) 8435 ● 8521 (c) 7314 ● 914 (d) 2041 ● 543

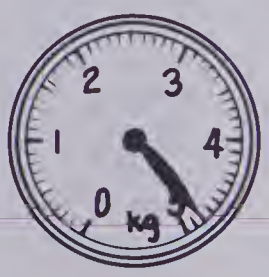
(e) 448 ● 1234 (f) 5732 ● 7532 (g) 4314 ● 4314 (h) 8601 ● 8801

4. Add.

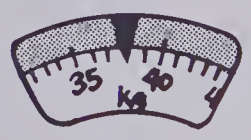
(a) 375 + 804	(b) 738 + 726	(c) 946 + 473	(d) 846 + 479	(e) 609 + 399
(f) 864 + 238	(g) 764 + 299	(h) 873 + 489	(i) 321 + 999	(j) 642 + 358

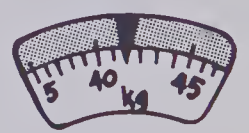
5. Round to the nearest kilogram.





6. Round to the nearest 10 kg.

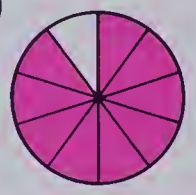
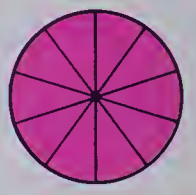




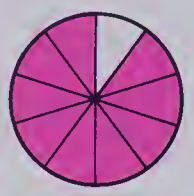
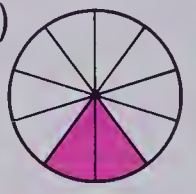
Extra Practice — Chapter Five

1. Write the fraction for the coloured part.

(a) (b) (c) (d) (e) (f)

(g) (h) (i) (j) (k)  (l) 

2. Write the decimal for the coloured part.

(a) (b) (c)  (d) (e)  (f)

(g) (h) (i) (j) (k) (l)

3. Add.

(a) $\begin{array}{r} 0.1 \\ +\ 0.3 \\ \hline \end{array}$ (b) $\begin{array}{r} 0.5 \\ +\ 0.4 \\ \hline \end{array}$ (c) $\begin{array}{r} 0.6 \\ +\ 0.2 \\ \hline \end{array}$ (d) $\begin{array}{r} \$4.32 \\ +\ 1.36 \\ \hline \end{array}$ (e) $\begin{array}{r} \$6.51 \\ +\ 3.28 \\ \hline \end{array}$ (f) $\begin{array}{r} \$16.44 \\ +\ 23.23 \\ \hline \end{array}$

4. Subtract.

(a) $\begin{array}{r} 0.6 \\ -\ 0.3 \\ \hline \end{array}$ (b) $\begin{array}{r} 0.9 \\ -\ 0.1 \\ \hline \end{array}$ (c) $\begin{array}{r} 0.8 \\ -\ 0.5 \\ \hline \end{array}$ (d) $\begin{array}{r} \$6.94 \\ -\ 2.82 \\ \hline \end{array}$ (e) $\begin{array}{r} \$8.59 \\ -\ 3.49 \\ \hline \end{array}$ (f) $\begin{array}{r} \$56.78 \\ -\ 32.23 \\ \hline \end{array}$

Extra Practice—Chapter Six

Multiply.

1. (a) 5×2 (b) 4×3 (c) 2×1 (d) 4×4 (e) 2×0

2. (a) 6×1 (b) 3×3 (c) 2×4 (d) 5×3 (e) 5×5

3. (a) 5×0 (b) 5×4 (c) 5×1 (d) 10×1 (e) 3×1

4. (a) $\begin{array}{r} 0 \\ \times\ 5 \\ \hline \end{array}$ (b) $\begin{array}{r} 2 \\ \times\ 2 \\ \hline \end{array}$ (c) $\begin{array}{r} 5 \\ \times\ 3 \\ \hline \end{array}$ (d) $\begin{array}{r} 3 \\ \times\ 4 \\ \hline \end{array}$ (e) $\begin{array}{r} 5 \\ \times\ 2 \\ \hline \end{array}$

5. (a) $\begin{array}{r} 4 \\ \times\ 1 \\ \hline \end{array}$ (b) $\begin{array}{r} 2 \\ \times\ 3 \\ \hline \end{array}$ (c) $\begin{array}{r} 4 \\ \times\ 5 \\ \hline \end{array}$ (d) $\begin{array}{r} 1 \\ \times\ 3 \\ \hline \end{array}$ (e) $\begin{array}{r} 4 \\ \times\ 4 \\ \hline \end{array}$

6. (a) $\begin{array}{r} 5 \\ \times\ 5 \\ \hline \end{array}$ (b) $\begin{array}{r} 4 \\ \times\ 2 \\ \hline \end{array}$ (c) $\begin{array}{r} 7 \\ \times\ 0 \\ \hline \end{array}$ (d) $\begin{array}{r} 4 \\ \times\ 3 \\ \hline \end{array}$ (e) $\begin{array}{r} 10 \\ \times\ 0 \\ \hline \end{array}$

Divide.

7. (a) $15 \div 5$ (b) $20 \div 4$ (c) $10 \div 2$ (d) $6 \div 3$ (e) $12 \div 4$

8. (a) $4 \div 2$ (b) $5 \div 5$ (c) $20 \div 5$ (d) $8 \div 4$ (e) $4 \div 2$

9. (a) $9 \div 3$ (b) $8 \div 2$ (c) $10 \div 5$ (d) $18 \div 2$ (e) $3 \div 3$

10. (a) $25 \div 5$ (b) $10 \div 1$ (c) $12 \div 3$ (d) $6 \div 2$ (e) $9 \div 1$

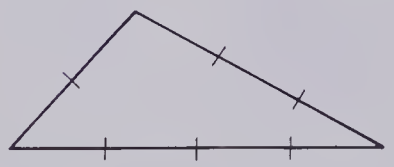
11. (a) $16 \div 2$ (b) $15 \div 3$ (c) $20 \div 2$ (d) $12 \div 1$ (e) $4 \div 4$

12. (a) $12 \div 2$ (b) $16 \div 4$ (c) $15 \div 3$ (d) $8 \div 1$ (e) $20 \div 5$

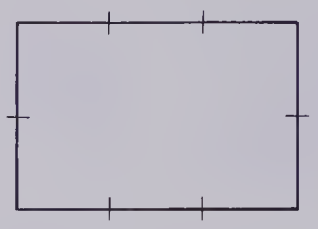
Extra Practice—Chapter Seven

1. Find the perimeter. ⟷ 1 cm.

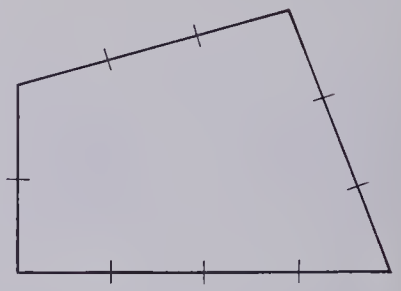
(a)



(b)

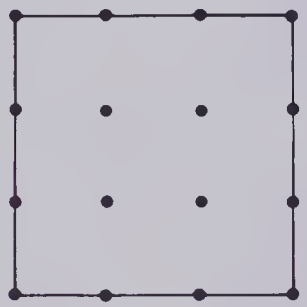


(c)

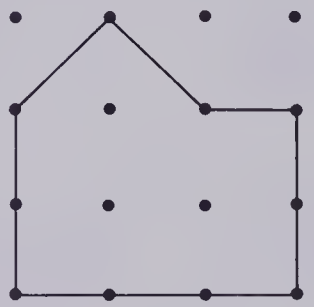


2. Find the area. ⟷ 1 cm.

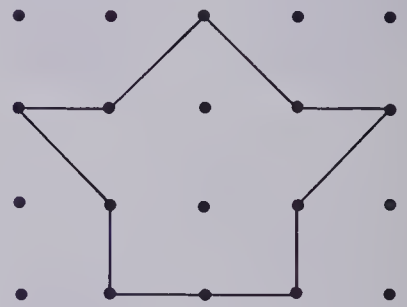
(a)



(b)

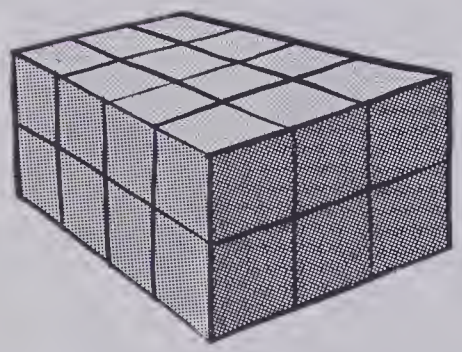


(c)

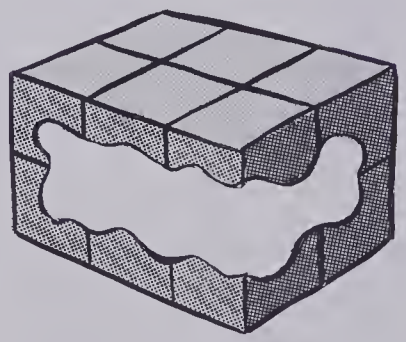


3. Find the volume.

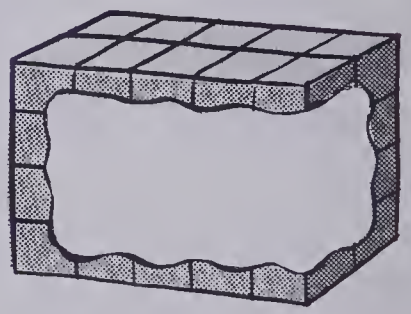
(a)



(b)



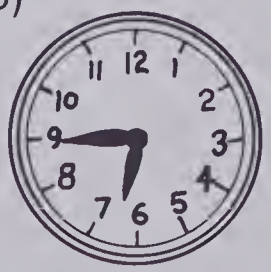
(c)



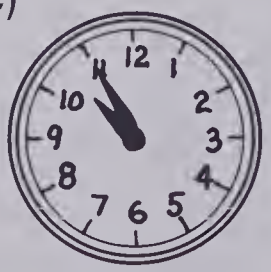
4. Write the time in the form 06:35.

(a)

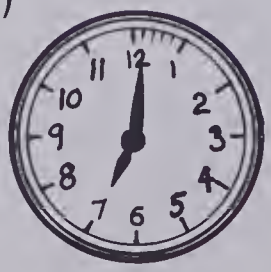
(b)



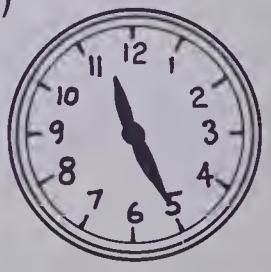
(c)



(d)



(e)



Extra Practice—Chapter Eight

Multiply.

1. (a) 8×4 (b) 5×5 (c) 9×3 (d) 6×2 (e) 1×9

2. (a) 5×4 (b) 1×6 (c) 7×3 (d) 9×4 (e) 7×2

3. (a) 6×5 (b) 0×9 (c) 5×2 (d) 6×5 (e) 4×4

4. (a) 5×3 (b) 9×5 (c) 6×4 (d) 8×0 (e) 4×3

5. (a) 9×10 (b) 8×3 (c) 7×5 (d) 5×4 (e) 8×5

Divide.

6. (a) $25 \div 5$ (b) $12 \div 4$ (c) $15 \div 3$ (d) $20 \div 4$ (e) $16 \div 4$

7. (a) $10 \div 2$ (b) $20 \div 5$ (c) $18 \div 2$ (d) $27 \div 3$ (e) $24 \div 6$

8. (a) $15 \div 5$ (b) $24 \div 4$ (c) $21 \div 7$ (d) $10 \div 1$ (e) $12 \div 6$

9. (a) $5\overline{)20}$ (b) $10\overline{)80}$ (c) $3\overline{)21}$ (d) $4\overline{)28}$ (e) $5\overline{)40}$

10. (a) $2\overline{)18}$ (b) $4\overline{)32}$ (c) $5\overline{)25}$ (d) $10\overline{)90}$ (e) $2\overline{)20}$

11. (a) $10\overline{)70}$ (b) $3\overline{)30}$ (c) $4\overline{)24}$ (d) $5\overline{)35}$ (e) $4\overline{)36}$

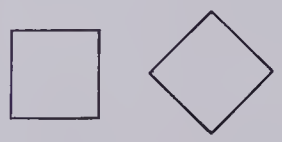
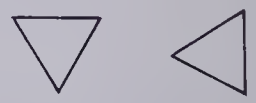
Extra Practice—Chapter Nine

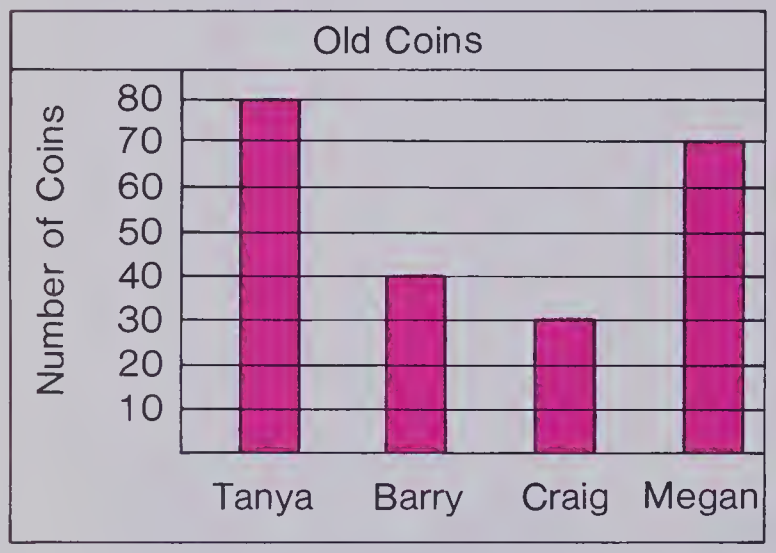
1. Draw each.

   (a) a line (b) a segment (c) an angle

   (d) a ray (e) a closed curve (f) an open curve

2. Which are slides?

A B  C D 



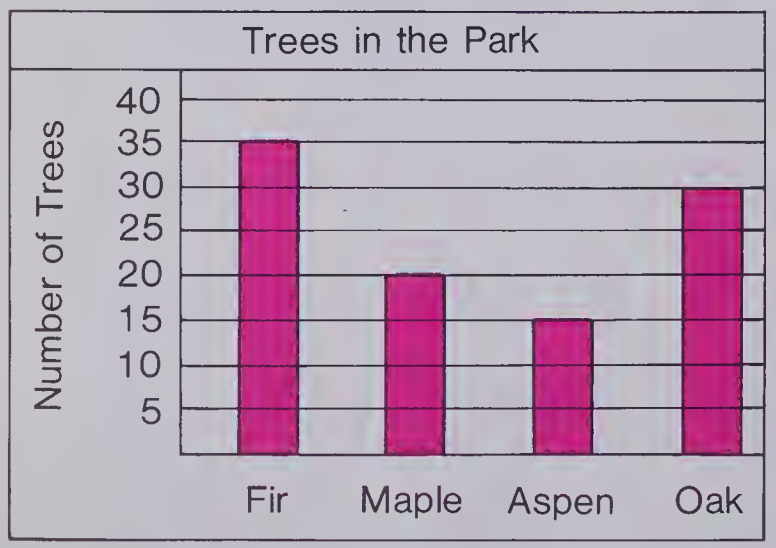
3. Old Coins

   (a) Who has the most coins?

   (b) Who has the fewest coins?

   (c) How many coins does Megan have?

   (d) Who has twice as many coins as Barry?



4. Trees in the Park

   (a) What tree is most common?

   (b) What tree is least common?

   (c) How would you show 30 walnut trees?

   (d) How many trees altogether?

Extra Practice—Chapter Ten

Multiply.

1.	(a) 7×9	(b) 9×7	(c) 7×6	(d) 9×8	(e) 10×0
2.	(a) 9×6	(b) 4×9	(c) 5×8	(d) 9×5	(e) 5×7
3.	(a) 8×6	(b) 7×8	(c) 7×7	(d) 8×5	(e) 5×9
4.	(a) 9×9	(b) 6×8	(c) 37×0	(d) 6×7	(e) 8×8
5.	(a) 8×7	(b) 6×9	(c) 4×8	(d) 8×9	(e) 9×6

Divide.

6.	(a) $7\overline{)49}$	(b) $9\overline{)72}$	(c) $6\overline{)36}$	(d) $4\overline{)24}$	(e) $8\overline{)40}$
7.	(a) $6\overline{)48}$	(b) $8\overline{)64}$	(c) $9\overline{)81}$	(d) $5\overline{)35}$	(e) $7\overline{)63}$
8.	(a) $8\overline{)24}$	(b) $7\overline{)56}$	(c) $6\overline{)42}$	(d) $9\overline{)27}$	(e) $8\overline{)56}$
9.	(a) $10\overline{)30}$	(b) $9\overline{)54}$	(c) $7\overline{)42}$	(d) $8\overline{)32}$	(e) $10\overline{)70}$
10.	(a) $8\overline{)48}$	(b) $10\overline{)100}$	(c) $9\overline{)45}$	(d) $7\overline{)14}$	(e) $6\overline{)24}$
11.	(a) $10\overline{)60}$	(b) $9\overline{)63}$	(c) $6\overline{)54}$	(d) $3\overline{)27}$	(e) $3\overline{)30}$

Answers to Selected Problems

Chapter 1

Page 1 **2.** 9 **3.** 2 **11.** 5 **16.** 4 **17.** 2 **18.** 7

Page 2 **2.** 36 **3.** 53

Page 3 **2.** 2 tens and 6 ones **12.** 19 **23.** 2 tens

Page 4 **2.** 26

Page 5 **2.** 18 **3.** 12 **4.** 16

Page 6 **1.** $6 < 8$ **2.** $5 = 5$ **4.** $9 > 7$

Page 7 **1.** 47 **5.** 46 **9.** 34

Page 8 **2.** $3 + 5 = 8$ **9.** $5 + 3 = 8$ **10.** $3 + 2 = 5$

Page 9

1.	**2.**	**4.**	**5.**	**6.**
6	4	4	4	4
$+\ 3$	$+\ 4$	$+\ 4$	$+\ 2$	$+\ 5$
9	8	8	6	9

Page 10 **2.** $3 + 5 = 5 + 3$ **4.** Yes **8.** $4 + 3 = 3 + 4$

Page 11 **2.** 10th **3.** 7th **4.** 1st **12.** 10th **13.** 9th

Page 15 **1.** 3 and 4 are addends. **5.** (5) + (3) = 8 **9.** 9 is a sum. **13.** 7 + 9 = (16)

Page 17 **2.** 38 **3.** 17

Page 18 **4.** 2, 4, 6, 8, 10, 12 **5.** 30, 32, 34, 36, 38

Page 19 **3.** 3, 6, 9, 12, 15, 18 **4.** 18, 21, 24, 27, 30, 33

Page 20 **1.** 1, 3, 5, 7, 9

Page 21 **1.** $6 - 2 = 4$ **2.** $8 - 3 = 5$

Page 22 **1.** $1 + 2 = 3$
$2 + 1 = 3$
$3 - 2 = 1$
$3 - 1 = 2$

Page 23 **1.** (a) 4 (b) 3 (c) 3 (d) 2 (e) 3 (f) 1

Page 24 **1.** (a) 7 **2.** (a) 1

Page 25 **2.** (a) 11 **3.** (a) 12

Page 30 **1.** 8 **2.** 10

Page 31 **4.** 9 **5.** 9

Page 32 **1.** 10 **2.** 6 **3.** 9 **14.** 1+1+1+1+1+1+1 or 5+1+1

Chapter 2

Page 38 **4.** 10 **5.** 15 **6.** 12

Page 39 **2.** 86 **3.** 97

Page 42 **6.** 431 **11.** 3 ones

Page 43 **1.** 754 **4.** 346 **7.** 389 **10.** 221 > 122 **11.** 386 < 929

Page 44 **1.** (b) 599 (c) 859

Page 45 **1.** He had 1 ten and 2 ones. He had 12. **4.** 16

Page 46 **1.** 62 **2.** 84

Page 47 **2.** 81 **3.** 61 **4.** 82

Page 48 **2.** 761 **3.** 582 **4.** 892

Page 49 **1.** 81 stamps. **5.** 61 **6.** 92

Page 50 **1.** 629

Page 53 **4.** 612 **5.** 632 **6.** 913 **7.** 640

Page 55 **5.** 3 **6.** 3 **7.** 8

Page 56 **2.** 13 **3.** 13 **4.** 14

Page 58 **2.** 73 **3.** 23 **4.** 18

Page 59 **4.** 62 m **5.** 91 **6.** 264

Page 61 **1.** 27 **2.** 28 **3.** 35 **4.** 57
5. 18

Page 63 **3.** (b) 39 (c) 58 (d) 19 (e) 58

Page 66 **1.** (a) 231 (b) 331
2. (b) 634 (c) 211 (d) 153

Page 67 **1.** 173 **2.** 264

Page 70 **1.** 288 **2.** 264

Page 71 **1.** (b) 719 (c) 309 (d) 335

Page 72 **1.** fourble **2.** sixble

Page 73 **2.** (+2) **3.** (+1) **11.** (-1)
12. (-5)

Page 74 **2.** 15 **3.** 46 **4.** 37 **5.** 36

Page 75 **2.** 348 **3.** 267 **4.** 259

Chapter 3

Page 85 **1.** (a) 3 pyramids
(b) 4 triangular prisms
(c) 3 cubes
(d) 4 rectangular prisms

Page 86 **3.** 2 units wide. 4 square corners.

Page 87 **1.** A, B, and E are triangles.

Page 92 **1.** jelly box, rectangular prism; grapefruit, ball (sphere); bread, rectangular prism; signs, rectangles; syrup, cylinder.

Page 93 **3.** The first and third shapes are circles.

Page 94 **1.** (a) 3 circles (b) 9 triangles
(c) no four-sided shapes

Page 95 **1.** Similar **2.** Similar
3. Not similar

Page 96 **1.** Different colours.

Chapter 4

Page 103 **1.** 6 thousands **5.** 3 hundreds
10. 3067

Page 104 **1.** 4 thousands 3 hundreds
7 tens 1 one **9.** 26
15. 2 thousands

Page 105 **1.** 2523, 2524, 2525
5. 1165, 1166, 1167, 1168

Page 106 **1.** $3000 > 2000$ **2.** $3417 < 3617$
4. $8274 > 8129$ **5.** $1826 < 1862$

Page 107 **1.** 1224 **2.** 1389 **3.** 1299

Page 109 **1.** 5 cm

Page 110 **1.** 6 cm **2.** 4 cm

Page 111 **1.** 2 dm **2.** 20 cm

Page 113 **3.** (a) 10 dm (b) 20 dm
(c) 30 dm

Page 116 **1.** 5 km

Page 117 **1.** 1010 mm

Page 118 **1.** 8 kg **5.** phone and apples **17.** paint, pumpkin and apples; turkey and phone **21.** No

Page 119 **1.** 250 g **4.** E **7.** I, C, and H; J, B, and H; J, B, A, and F

Page 120 **1.** 2 kg **5.** 20 kg

Chapter 5

Page 125 **1.** (a) and (c) are cut into pieces the same size.

Page 126 **6.** $\frac{1}{7}$ **10.** $\frac{1}{3}$, one third

Page 127 **1.** $\frac{1}{2} > \frac{1}{3}$ **2.** (a) $\frac{1}{2} > \frac{1}{5}$ (b) $\frac{1}{5} < \frac{1}{2}$

Page 128 **1.** (a) 2 red parts. (b) 4 parts altogether. (c) $\frac{2}{4}$

Page 129 **1.** $\frac{4}{10}$, four tenths

Page 130 **1.** four tenths, 0.4 **2.** nine tenths, 0.9

Page 131 **1.** (a) 0.1 (b) 0.2

Page 132 **1.** 1.4 **2.** 1.3

Page 133 **2.** 0.6

Page 134 **1.** 0.4

Page 136 **1.** $\frac{3}{4}$ **2.** 0.6

Page 142 **1.** Extra: Pencil is 0.9 dm long. Yes, it will fit.

Page 144 **1.** $1.34

Page 145 **1.** $2.39 **2.** $6.49 **3.** $3.85 **4.** $4.77 **5.** $5.99

Page 146 **1.** $1.33 **2.** $2.22 **3.** $4.21 **4.** $2.31 **5.** $4.31

Page 148 **1.** 61¢ **2.** 81¢ **3.** $2.26 **4.** $11.37 **5.** 25¢, 10¢, 10¢

Page 151 **1.** Yes

Page 152 **4.** 10¢, 5¢ **5.** 5¢, 5¢, 5¢, 25¢

Page 153 **1.** millilitres **2.** millilitres **3.** grams **9.** 400 g **13.** 4 L

Chapter 6

Page 159 **1.** $4 \times 3 = 12$ **2.** $3 \times 2 = 6$ **5.** $3 + 3 = 6$

Page 160 **1.** $3 \times 2 = 6$ **2.** $7 \times 2 = 14$

Page 161 **1.** $4 \times 2 = 8$ **2.** $6 \times 2 = 12$ **7.** $8 \times 2 = 16$

Page 162 **1.** $3 \times 3 = 9$ **4.** $2 \times 3 = 6$

Page 163 **1.** $3 \times 3 = 9$ **7.** $4 \times 2 = 8$ **15.** 8 seals

Page 164 **3.** 4, 8, 12, 16, 20, 24; 12, 16, 20, 24, 28, 32; 20, 24, 28, 32, 36, 40; 28, 32, 36, 40, 44, 48

Page 165 **1.** $3 \times 4 = 12$ **5.** $1 \times 4 = 4$ **6.** $5 \times 3 = 15$ **7.** $5 \times 4 = 20$

Page 166 **1.** $3 \times 4 = 12$ **2.** $4 \times 4 = 16$ **5.** $3 \times 4 = 12$

Page 167 **1.** 25 lines **2.** 30 lines

Page 168 **1.** $3 \times 5 = 15$ **2.** $4 \times 5 = 20$ **5.** $2 \times 5 = 10$

Page 169 **1.** $3 \times 5 = 15$ **2.** $5 \times 5 = 25$
6. $4 \times 5 = 20$

Page 170 **1.** $2 \times 1 = 2$ **2.** $5 \times 1 = 5$
7. $4 \times 1 = 4$

Page 171 **1.** $2 \times 0 = 0$ **2.** $9 \times 0 = 0$

Page 172 **1.** $1 \times 1 = 1$ **2.** $2 \times 3 = 6$
21. 8 **22.** 3

Page 175 **1.** $4 \div 2 = 2$

Page 176 **1.** $4 \div 2 = 2$ **2.** $6 \div 2 = 3$

Page 177 **1.** $12 \div 4 = 3$ **2.** $20 \div 5 = 4$

Page 178 **1.** $4 \div 2 = 2$ **2.** $10 \div 5 = 2$
3. $12 \div 4 = 3$

Page 179 **1.** $4 \times 3 = 12$, $3 \times 4 = 12$,
$12 \div 4 = 3$, $12 \div 3 = 4$
2. $3 \times 4 = 12$, $4 \times 3 = 12$,
$12 \div 3 = 4$, $12 \div 4 = 3$

Page 180 **1.** (a) $2 \times 4 = 8$, $4 \times 2 = 8$
(b) $15 \div 5 = 3$, $3 \times 5 = 15$,
$5 \times 3 = 15$ (c) $10 \div 2 = 5$,
$5 \times 2 = 10$, $2 \times 5 = 10$
(d) $20 \div 4 = 5$, $5 \times 4 = 20$,
$4 \times 5 = 20$
4. (a) $12 \div 4 = 3$, $12 \div 3 = 4$
(b) $2 \times 2 = 4$, $4 \div 2 = 2$
(c) $5 \times 3 = 15$, $15 \div 3 = 5$,
$15 \div 5 = 3$ (d) $6 \times 2 = 12$,
$12 \div 2 = 6$, $12 \div 6 = 2$
7. $3 \times 4 = 12$ $12 \div 4 = 3$
$4 \times 3 = 12$ $12 \div 3 = 4$

Page 181 **1.** $8 \div 1 = 8$

Page 183 **1.** 3 lions in each cage.
2. 25 steaks.

Chapter 7

Page 190 **1.** 12 units **2.** 11 units

Page 191 **5.** 14 units **7.** 14 cm **8.** 16 cm
11. 76 cm

Page 192 **1.** 3 squares **2.** 10 squares

Page 193 **1.** 6 triangles **2.** 4 triangles

Page 194 **1.** 6 square centimetres
2. 6 square centimetres
3. 6 square centimetres
5. 3.0 square centimetres
6. 4.5 square centimetres

Page 195 **9.** 6 square centimetres
10. 6 square centimetres
11. 4 square centimetres
18. 10 square centimetres
19. 7 square centimetres

Page 196 **1.** 6 blocks **2.** 13 blocks
3. 10 blocks

Page 197 **10.** 4 cubic units, 8 cubic units,
12 cubic units

Page 198 **1.** 11 cubes **2.** 14 cubes
3. 14 cubes
4. 6 cubic centimetres
5. 12 cubic centimetres

Page 199 **13.** 1.0 cubic centimetres
14. 2.0 cubic centimetres
15. 5.0 cubic centimetres

Page 200 **1.** 2.0 L

Page 201 **1.** 1 kg, 750 g, 250 g, 150 g

Page 203 **1.** April, 30 days; September,
30 days; January, 31 days; July,
31 days; November, 30 days.
2. 12 months **3.** February

Page 204 **1.** 26°C **2.** 13°C

Page 206 **1.** 08:10 **2.** 02:15

Page 207 **1.** 30 min after 3, 03:30
2. 30 min after 11, 11:30
3. 1 min after 3, 03:01

Page 208 **1.** 15 min to 4, 03:45
2. 20 min to 12, 11:40

Page 210 **1.** (a) 06:40 (b) 02:20
(c) 08:55 (d) 11:05

Page 211 **1.** (a) 02:15 **2.** (a) 03:25

Page 213 **2.** 20 min stop in Carstairs;
20 min stop in Olds;
10 min stop in Bowden.

Chapter 8

Page 217 **1.** 20 **2.** 12

Page 218 **1.** $6 \div 3 = 2$

Page 219 **7.** $2 \times 3 = 6$
13. (a) $10 \div 2 = 5$ or $10 \div 5 = 2$
14. (a) $5 \times 3 = 15$ or
$3 \times 5 = 15$

Page 220 **2.** 10 **3.** 16 **4.** 8 **15.** 6
16. 24 **17.** 15

Page 221 **2.** 32 **3.** $7 \times 4 = 28$ **8.** 8

Page 222 **1.** 20 jelly beans. **3.** 2 **9.** 15

Page 223 **2.** 40 **3.** $6 \times 5 = 30$

Page 225 **2.** 30 **3.** $5 \times 10 = 50$

Page 227 **1.** 4 **2.** 2 **3.** 4

Page 228 **1.** 9 **2.** 6 **3.** 5

Page 229 **1.** 8 **2.** 6 **3.** 9

Page 230 **1.** 4 **2.** 2 **3.** 6

Page 231 **1.** 9 **2.** 6 **3.** 2

Page 233 **1.** 9 **2.** 3 **3.** 6

Page 234 **1.** (a) $3 \times 4 = 12$, $4 \times 3 = 12$,
$12 \div 3 = 4$, $12 \div 4 = 3$
1. (b) $4 \times 5 = 20$, $5 \times 4 = 20$,
$20 \div 4 = 5$, $20 \div 5 = 4$

Page 235 **1.** $8 \div 2 = 4$, $8 \div 4 = 2$
4. $10 \times 3 = 30$, $30 \div 3 = 10$,
$30 \div 10 = 3$
7. $2 \times 5 = 10$, $5 \times 2 = 10$
10. $24 \div 4 = 6$, $4 \times 6 = 24$,
$6 \times 4 = 24$

Page 237 **1.** 0 **2.** 0 **3.** 0

Chapter 9

Page 245 **1.** (a) No (b) No (c) Open curve.
2. (a) Yes (b) No
(c) Closed curve.

Page 246 **1.** (a), (c) and (e) are segments.

Page 249 **2.** (b) and (d) are angles.

Page 250 **1.** A slide. **2.** Not a slide.
3. A slide.

Page 251 **1.** The same. **2.** Different.

Page 253 **1.** Whale Shark **2.** Catfish
3. (a) 19 m (b) 11 m (c) 8 m

Page 254 **1.** (a) (i) 8 (ii) 11 (iii) 6
(b) 8 (c) 11 (d) 6

Page 257 **1.** (a) 1 rose (b) 6 roses
(c) Cheryl (d) Michie
(e) With 12 flower symbols.
(f) The number of roses in each child's garden.

Page 259 **1.** (a) It shows how far students are from school. (b) Robbie, Scott, Laurie and Sharon
(c) Sharon (d) Robbie
(e) 8 blocks (f) 4 blocks

Page 260 **1.** (a) Bard (b) Judy (c) Bard collected 35; Ruth collected 35; Rick collected 60.

Chapter 10

Page 266 **1.** 30 **2.** 12 **3.** 6

Page 267 **1.** 70 **2.** 42 **3.** 14

Page 268 **1.** $6 \times 9 = 54$ or $9 \times 6 = 54$
2. $6 \times 7 = 42$ or $7 \times 6 = 42$

Page 269 **1.** 80 **2.** 48 **3.** 72

Page 270 **1.** 90 **2.** 72 **3.** 54

Page 271 **1.** $9 \times 8 = 72$ or $8 \times 9 = 72$
2. $6 \times 8 = 48$ or $8 \times 6 = 48$

Page 272 **1.** 6 groups

Page 273 **1.** 5 coats

Page 275 **1.** 8

Page 276 **1.** 7

Page 279 **1.** 6 **2.** 24 **3.** 8

Page 281 **1.** 20 **5.** 70 **14.** 100

Page 282 **1.** 60 **2.** 50 **3.** 90 **13.** 500
14. 300 **15.** 400 **25.** 400
26. 600 **27.** 600

Page 283 **1.** 3 **2.** 6 **3.** 9

Page 284 **1.** 6 **2.** 7 **3.** 8

Page 286 **1.** $4 \times 6 < 5 \times 5$
2. $8 \times 7 < 8 \times 8$
3. $6 \times 8 = 8 \times 6$

Page 290 **1.** 3R2

Page 291 **2.** 4R2

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